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ON THE FAST TRACK

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Making a connection with a joinery method

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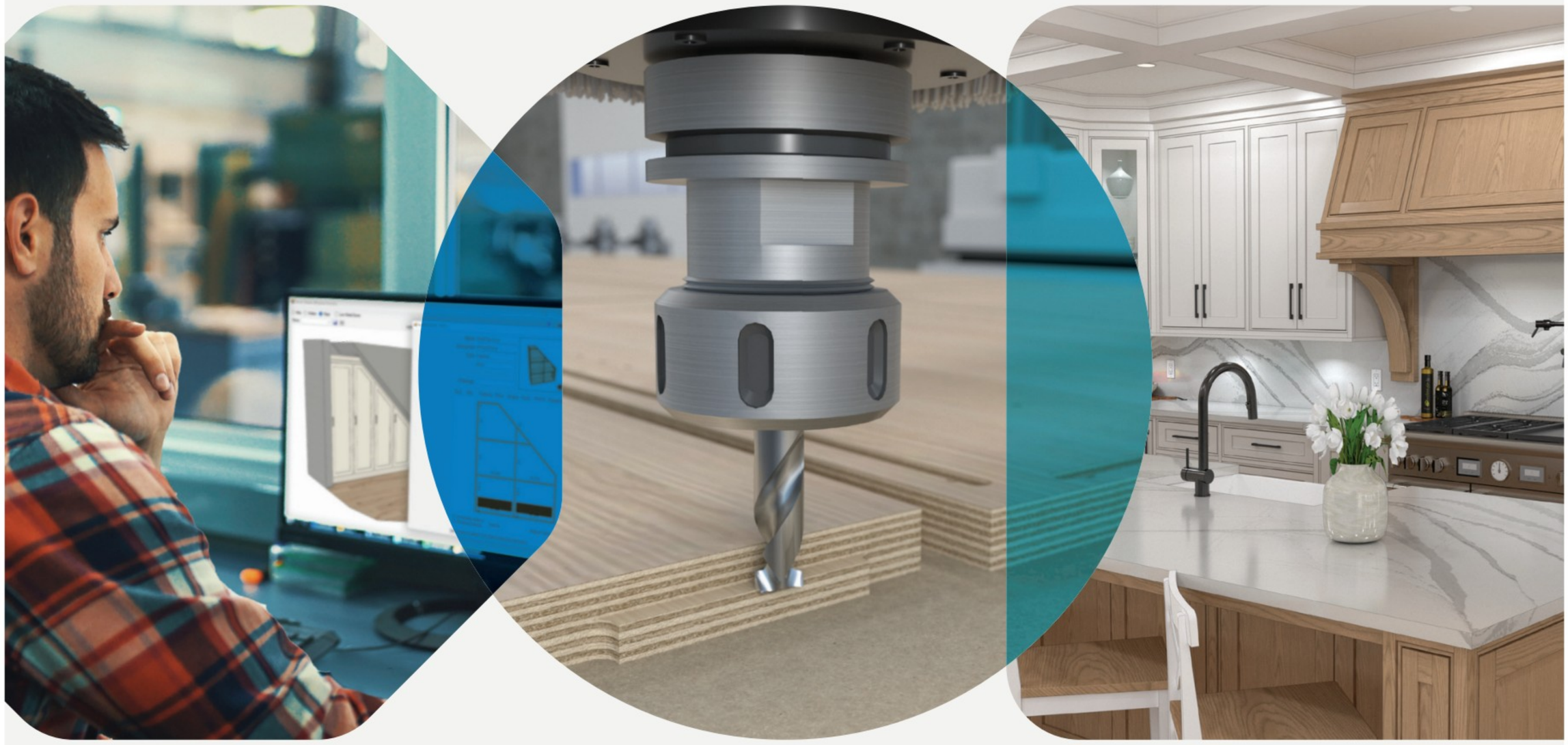

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Stiles, Woodcraft install new presidents

By Tod Riggio

Stiles Machinery announced Barry Kellar as its new president. Kellar will oversee all North American operations of the HOMAG Group, which includes over 650 employees across Stiles Machinery, HOMAG Canada, and HOMAG Machinery North America.

"I am very excited to welcome Barry Kellar as the next president of Stiles Machinery," Daniel Schmitt, CEO of the HOMAG Group, said in a statement. "Barry brings a wealth of knowledge and expertise in manufacturing to the position, which I am sure will complement an already exceptional team at Stiles. Through Barry's leadership and dedication to customer centricity, I am convinced that Stiles will continue to thrive as a market leader in our industry."

Kellar is a graduate of the U.S. Military Academy and was previously president and CEO for North America for Freudenberg Filtration Technologies and a global vice president for the automotive filtration and residential filter divisions.

"I am very excited to join Stiles Machinery and support their continued growth through providing our customers with best-in-class sales and service," said Kellar. "The foundation of parent HOMAG as a world-renowned manufacturer of solutions for the woodworking industry, coupled with our customer-centric approach to the market, confirms to me we have the right capabilities to deliver the value our customers expect."

Woodcraft Supply has appointed Tom Huntington as its new president.

"Tom comes to Woodcraft as a performance-driven sales leader with a wealth of experience in sales, franchisee relationships, channel development, and P&L responsibility for multiple retail and consumer products organizations. Tom is an excellent communicator and hands-on leader with a proven track record building best-in-class businesses, and we have every confidence he will do the same here," according to a statement from Woodcraft owners Tres Ross and Spencer Ross.

Huntington was an executive vice president at Joyride Coffee, graduated from Salisbury University, and earned an MBA in strategic leadership from the University of Delaware, according to the retailer.

"I was attracted to the Woodcraft brand because it was a unique opportunity to leverage my background in franchising and retail sales for an industry leader with an excellent reputation and fantastic people." said Huntington. "I look forward to working with our internal company team, franchisees, and business partners to grow this incredible brand." **w**

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Shaping the Successful Shop™

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SAPFM awards Cartouche to Marion Smith

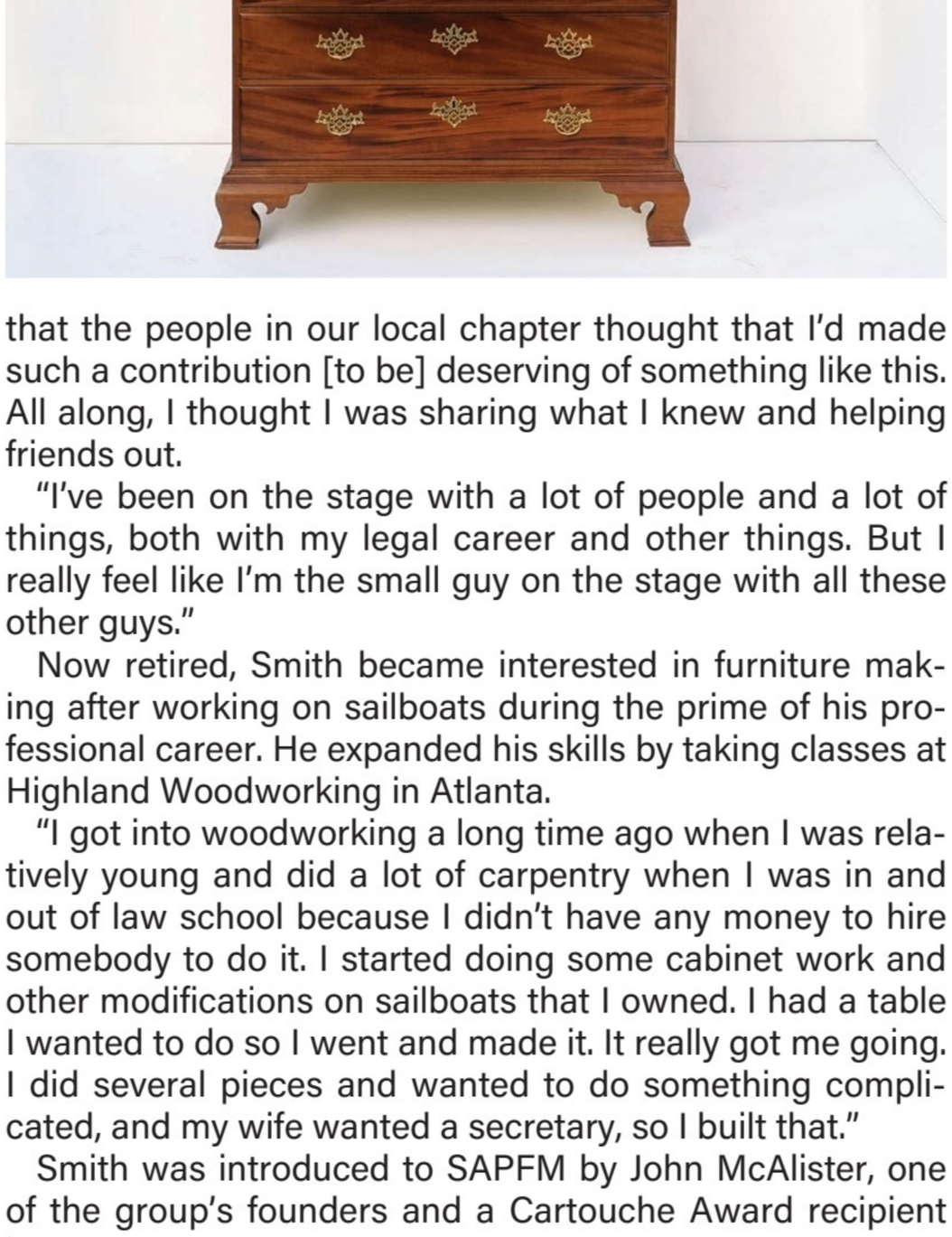
By Jennifer Hicks

The Society of American Period Furniture Makers (SAPFM) has selected Marion Smith of Atlanta as the recipient of its 2024 Cartouche Award.

The annual award is presented to an individual who excels in period furniture making and whose achievements best reflect the group's mission. Past recipients have included Robert Whitely, Gene Landon, Phil Lowe, Aland Breed, Will Neptune, and the North Bennett Street School.

Smith, a former corporate attorney, joined the SAPFM in 2004 and founded the group's Peach State chapter in 2010.

"It's really a big surprise," says Smith. "I was surprised that the people in our local chapter thought that I'd made such a contribution [to be] deserving of something like this. All along, I thought I was sharing what I knew and helping friends out.



"I've been on the stage with a lot of people and a lot of things, both with my legal career and other things. But I really feel like I'm the small guy on the stage with all these other guys."

Now retired, Smith became interested in furniture making after working on sailboats during the prime of his professional career. He expanded his skills by taking classes at Highland Woodworking in Atlanta.

"I got into woodworking a long time ago when I was relatively young and did a lot of carpentry when I was in and out of law school because I didn't have any money to hire somebody to do it. I started doing some cabinet work and other modifications on sailboats that I owned. I had a table I wanted to do so I went and made it. It really got me going. I did several pieces and wanted to do something complicated, and my wife wanted a secretary, so I built that."

Smith was introduced to SAPFM by John McAlister, one of the group's founders and a Cartouche Award recipient in 2001.

"John was a delightful man. He built his house around his shop. He told me about the SAPFM and I was intrigued with them. I spent a long time reading about period furniture on their website and joined very quickly after that."

The award will be presented at the SAPFM's Midyear Conference, June 28 to July 1, in Collegeville, Pa. Learn more at *sapfm.org*. **W**



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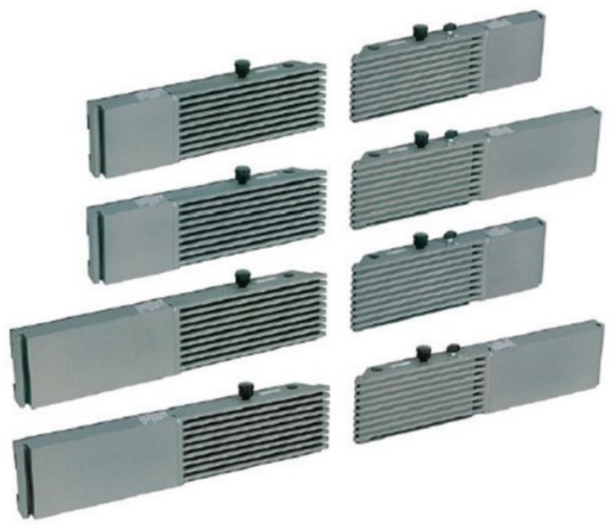

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Lowe's helps training effort

By Jennifer Hicks

The Lowe's Foundation recently gifted Gable Grants to 10 community-based nonprofits for the purpose of enhancing their skilled trades training programs. The foundation is on a mission to recruit, train and prepare 50,000 job-ready tradespeople and now counts grants to 24 organizations in 25 states.

"The skilled trades industry offers fulfilling and lucrative opportunities that are in high demand, with over half a million additional tradespeople needed this year in construction alone," Janice Dupré, the foundation's chair, said in a statement. "These community-based nonprofits have proven their ability to recruit and train a high volume and high quality of tradespeople for America's workforce."

The grants ranged from $260,000 to $1 million and went to:

She Built This City (Charlotte, N.C.) to grow its training, hiring and community service model with five new locations across North Carolina's Piedmont region.

Goodwill Industries of the Southern Piedmont (Charlotte, N.C.) to scale its Construction Skills Training program that offers stability services, credentials, personalized coaching and access to employers to launch construction careers.

Alliance for Multicultural Community Services (Houston) to expand its HVAC Bridge Class and Occupational Training Course to eight cohorts over the next two years.

Centro Hispano (Provo, Utah) to scale its electrician training program as the sole provider of workforce development training in Utah County. Chicago Women in Trades to increase its capacity to train and advance women in the construction, electrical, plumbing, HVAC and sheet metal trades.

Chicago Women in Trades to increase its capacity to train and advance women in the construction, electrical, plumbing, HVAC and sheet metal trades.

Florida Trade Academy (Tampa, Fla.) to expand its Career and Reentry Education program to train incarcerated women and men who are pursuing skilled trades careers.

The Master's Apprentice (Denver) to expand its tuition-free training program to recruit low-income students.

Accelerate Montana (Missoula, Mont.) to expand its statewide Job Site Ready construction trades program by deploying a mobile training unit to increase access for trainees in rural and tribal communities.

Positive Workforce (New York City) to double the number of individuals it serves for training, industry recognized credentialing and job placement services.

West Virginia Women Work (Charleston, S.C.) to implement a Step Up for Women program to offer a multifaceted approach to career placement.

The next grant application cycle for community-based nonprofits is Aug. 1-31. Learn more at *lowes.com*. **W**

CMA ISSUES CALL FOR ENTRIES

The Cabinet Makers Association (CMA) is accepting entries for its 14th annual Wood Diamond Awards. Established in 2010, the awards recognize and celebrate outstanding achievements in the cabinet making industry, while providing an opportunity for members to showcase their finest work and acknowledge the craftsmanship of their peers.

Open for entries from March 1 through May 1, the Wood Diamond Awards invite cabinet makers from across the industry to submit their most exceptional projects for consideration. Each submission requires a fee of $75.

"We're excited to launch the 14th edition of the Wood Diamond Awards," said Amanda Conger, CMA's executive director. "These awards not only honor the remarkable talent within our community but also serve as a testament to the dedication and innovation displayed by our members in their craft.

"The Wood Diamond Awards not only celebrate excellence but also provide winners with a platform to elevate their brands and showcase their achievements. We encourage all cabinetmakers to seize this opportunity to share their talents and be recognized on a national stage."

Learn more or submit an entry at *cabinetmakers.org*.

STAN DYKSTRA JOINS SNX TECHNOLOGIES

SNX Technologies, a manufacturer of contour edge banders in Sauk Rapids, Minn., welcomes Stan Dykstra to its team.

"With over 25 years of experience, Stan's primary responsibility at SNX will be to help educate people on the advantages of implementing cutting-edge technologies into woodworking facilities in the Michigan market," the company said in a statement.

"With SNX's partnership with AES, Stan will be able to offer technological solutions from the one- to ten-person shop to the 500-plus 'lights out' facilities. He is focused on business growth and winning customers, and has led major projects and programs that have left positive impacts on businesses."

Learn more about SNX Technologies at *snx-technologies.com*.









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Society of American Period Furniture Makers

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SAPFM begins membership drive

By Jennifer Hicks

The Society of American Period Furniture Makers, an organization dedicated to the education, preservation and reproduction of early era furniture, is undergoing sweeping changes this year to attract more members, particularly from the younger crowd. Measures include educational approaches, social media endeavors, and the like.

"Our membership is still roughly 1,000 people nationwide and a few in Canada and what not. We've kind of just hunkered in there in that 1,000 range and it's been a grind to try to find the younger members. We're trying to go more instructional and make SAPFM a learning-based club," says SAPFM president Dave Redlin.

"All of our members are talented. We've got a lot of experienced individuals that are willing to share, but not too many people know about us. So, we're trying to come up with an instructional-based curriculum that has some of the, to use the term, 'rockstars' in woodworking, and [incorporate] videos. We want to post a little bit of it on YouTube and make it a benefit for our members."

For example, Redlin says there's a tutorial in the works on the ball and claw foot with carving experts and academic professionals providing instruction and the history of the Philadelphia, Newport, and Boston styles.

The organization is also gearing up for its annual Mid-Rear Conference, scheduled for June 28 through July 1 in Collegeville, Pa. The event will feature educational and technical seminars, guest speakers, and tours of private collections. **W**

TOOLS FOR SCHOOLS IS ACCEPTING ENTRIES

Harbor Freight is accepting entries from high school skilled trade teachers for its Tools for Schools cash prizes.

This year, a grand total of $1.5 million will be awarded to 25 teachers and their skilled trades programs. Winners will be announced in the fall, according to the company.

The mission of Harbor Freight Tools for Schools is to increase understanding, support and investment in skilled trades education in U.S. public high schools.

"Through the prize, we have built a national network of outstanding high school skilled trades teachers who share best practices and collaborate to expand opportunities for students across the United States," said Danny Corwin, executive director of Harbor Freight Tools for Schools. "We look forward to hearing from applicants about their passion for teaching the skilled trades and how their programs connect students with many exciting opportunities after high school."

The deadline to apply is May 3. Learn more at *hftforschoolsprize.org*.

NEW WEBINAR SERIES FROM DESIGNS OF

Designs of Distinction (DOD) by Brown Wood Inc., a manufacturer of cabinet and furniture components based in Lincolnwood, Ill., will kick off a new webinar series on April 10.

The first webinar will cover DOD's Cut-To-Size Materials offerings, including materials available, pricing and ordering information, what Cut-to-Size means, and more.

Additional webinars will be scheduled on topics ranging from design and inspiration to answering questions about components and materials, according to the company.

Learn more at *brownwoodinc.com/dod*.

KBIS DRAWS 41,500 REGISTERED VISITORS

The National Kitchen & Bath Association reports 670 exhibitors and 41,500 registered visitors to its 2024 Kitchen and Bath Industry Show, held Feb. 27-29 in Las Vegas.

Co-located with the International Builders Show, KBIS is the largest kitchen and bath show in North America.

The NKBA also reported 46 percent of 2024 KBIS attendees were new to the event, there were 260 first-time exhibitors, and the number of international exhibitors increased by 35 percent from 2023.

The NKBA represents nearly 50,000 North American kitchen and bath industry professionals. Learn more at *nkba.org*.

REGISTRATION OPENS FOR WCMA PLANT TOUR

Registration is open for the Wood Component Manufacturers Association's 2024 Regional Plant Tour Event, scheduled for June 3-4 in Auburn, Mane.

The event includes tours of five state-of-the-art manufacturing facilities, giving attendees an opportunity to see advanced machinery in action, and network with others in the industry.

The plant tours include Thos. Moser Furniture, Mathews Brothers Windows, Lyman-Morse Boatbuildng, WoodEx Bearing Co., and MECO Seals.

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White oak is a hot commodity

By Jennifer Hicks

Pricing for white oak (*Quercus alba*) has spiked in recent months due to high demand from all segments of the market, but particularly from the stave industry, according to lumber suppliers interviewed by Woodshop News.

Dave Norman of Parkerville Wood Products, a retailer in Manchester, Conn., says his vendors in the wholesale market have warned that pricing is historically high for white oak. He's also experiencing a somewhat limited supply, especially with stock thicker than 8/4 and longer than 12'.

"White oak's still trending popular. That and walnut are still probably the most sought-after. White oak just spiked on us in price, depending on the thickness that we order from our vendors. It went up one to two dollars a board foot in the last month," Norman said in March.

"All of our vendors are experiencing the same thing. We got told by our vendors as we started putting in orders to be careful, that the price is spiking, quantity is limited, that kind of deal. We can still get it, but the prices definitely went up, especially with anything extra wide or extra long."

Paul Wentzell of Rex Lumber, a wholesaler in Acton, Mass., sees a direct correlation with increased prices and the stave market.

"The stave market remains extremely strong. It seems to be willing to pay more for the logs and it's just continued. Then it's still a popular species in the flooring and architectural millwork markets. It's just a hot species every way around," says Wentzell.

"The stave market will pay more for the logs, and the veneer market will pay more for the logs, and that's having an effect on everything — price, lengths, widths, grades. Those buying saw logs can't pay what the mills and the veneer suppliers pay. I think demand is just going to remain strong and we expect this trend to continue."

"In the plain sawn white oak, the prices have spiked," adds Tom Breen of Keiver-Willard Lumber, a wholesaler in Newburyport, Mass. "The rift and quartered were already a lot more than the plain sawn and they've gone up a little bit, but certainly not as sharply as the plain sliced. The plain sawn has really taken a big jump.



"I've read that the main reason for the increase in due to the demand in bourbon and whisky in recent years. The mills are scooping up as much white oak as they can, to the point where some distillers are buying forest land to help with the supply of white oak that they're going to need for their barrels. I think it's having a tremendous effect. Every load that comes in is more expensive."

Retail pricing for 4/4 plain sawn white oak was quoted at $8.49/bf. **w**

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Grex updates pin nailer

By Jennifer Hicks

Grex Power Tools is commemorating the 20th anniversary of its P635 23-gauge pin nailer with an update. The new model P635L features auto-lockout with a one-touch override and an on-board adjustable edge guide.

"The P635 has always been one of our best sellers that most professionals know us for. That's one of the reasons why we kept it unchanged all these years," says Raymond Wong, the company's head of product development.



The new P635L 23-gauge pin nailer from Grex Power Tools features an adjustable edge guide and auto-lockout with a one-touch override.

"At its core the P635L is still the same tool as the P635, but we added two main features. One is the on-board adjustable edge guide that attaches to the bottom of the magazine which helps with more accuracy, precision and repetitive nailing. The second big new feature would be the lockout with override. That gives the users the ability to make sure they're never driving empty fasteners. It alerts you when you're down to about seven fasteners."

Wong says other upgrades have been made to internal parts of the tool to make it more robust and maintenance free. Standard features include a narrow nose design with no-mar tip, double trigger safety, self-adjusting magazine, large fastener window, and more.

The tool accepts 23-gauge headless pins ranging from 3/8" to 1-3/8" in length. It weighs 2.4 pounds, according to the company.

The P635L sells for $198 with a carrying case, safety glasses, tool oil and hex keys.

Learn more at *grexusa.com*. W

Courtesy of Grex



New disc sander from Grizzly

By Jennifer Hicks

Grizzly Industrial presents a new 20" disc sander, model G0967, with variable speed control and a tilting 12" x 25" cast-iron table.

The company has offered several versions of a 20" disc sander over the last 40-plus years, but this model has the most features, according to product manager Pat Raynor.

"The one feature we knew customers were going to appreciate was the larger cast-iron table for working with larger pieces," he says. "We also added cast-iron trunnions, an X and Y miter track, pedestal on/off switch, and a storage area underneath. We added the variable speed, which was something we never had in a 20" disc sander."

The sander has a 2-hp motor and a speed range of 500 to 1,800 rpm. It's a 3-phase machine with a built-in inverter that allows it to operate on single-phase circuitry, according to Grizzly.

Other features include a miter gauge, 4" dust port, storage cabinet, and motor brake.

The G0967 sells for $1,995. For more product details, visit *grizzly.com*. **W**



Courtesy of Grizzly

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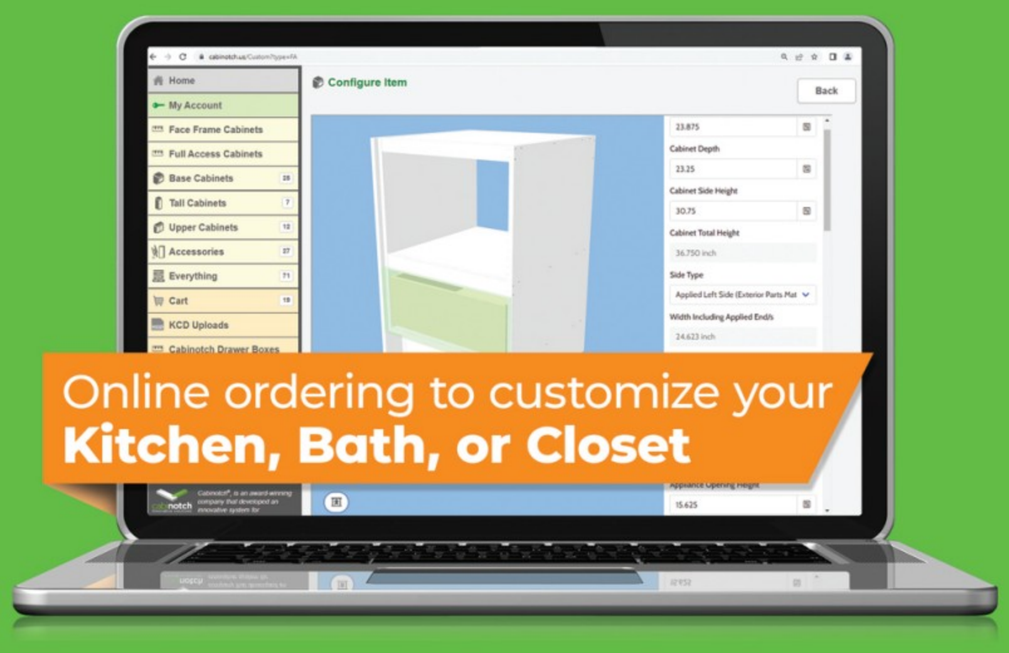

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Festool presents two sander kits

By Jennifer Hicks

Festool is offering two limited-edition combo kits featuring its ETS EC 125 and 150 orbital sanders, plus a selection of Granat Net abrasives.

The kits pair Festool's highest performing, production-style sanders with one of its more popular abrasives, according to Rick Bush, the company's senior product marketing manager.

"These two sanders featured in these promotions are equipped to be every day, all day long production sanders," says Bush. "A lot of hand-held power tools are made for smaller work, but these you can run all day long, so we want to relay the message they're for the professional user in an environment that's very high demand, and they're built to last and produce excellent finish results.

"We made them with our Net-style abrasives. We have many types of abrasives, but the Net is one that more and more people seem to be gravitating towards. Especially working with mixed media, whether just wood, or maybe doing something with metal or epoxy fills, they have an abrasive that's more versatile."

The 125 is a 5" sander, while the 150 is a 6". They both feature a brushless motor and an ergonomic, low-profile design with an integrated sanding brake pad, active vibration control, and dust collection ports that can be easily synced with Festool's dust extractors, according to the company.

The kits are priced at $575 with the 125 (578150) and $675 (578151) with the 150. Learn more at *festoolusa.com*. **W**



The ETS EC 150 sander (top) and combo kit with abrasives.

Courtesy of Festool

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Grizzly adds scroll saw

By Jennifer Hicks

Grizzly Industrial introduces a 21" variable-speed scroll saw, model G0969, featuring a tilting saw head and a foot pedal on/off switch.

Product manager Pat Raynor, who oversaw the development process, says a higher end scroll saw has been on the company's to-do list for a long time.

"We wanted to develop a higher-end scroll saw that has all the best features and take it to another level. With this (model) the machine tilts, not the table. If you're trying to scroll saw, and trying to tilt the table, it's super difficult to do. This way, when you're scroll sawing on your pattern, you're always nice and level.

"Another feature that makes this saw very unique is the size of the table," adds Raynor. "It measures 28-1/2" x 20", which is very large. There's a dust collection attachment underneath the table to remove dust from the source. And we also knew from customer feedback that people working with a scroll like a hands-free foot pedal switch because you're turning it on and off a lot when making internal cuts."

The G0969 sells for $629.95. Learn more at *grizzly.com*. **W**



Courtesy of Grizzly

The saw head tilts on Grizzly's new scroll saw.



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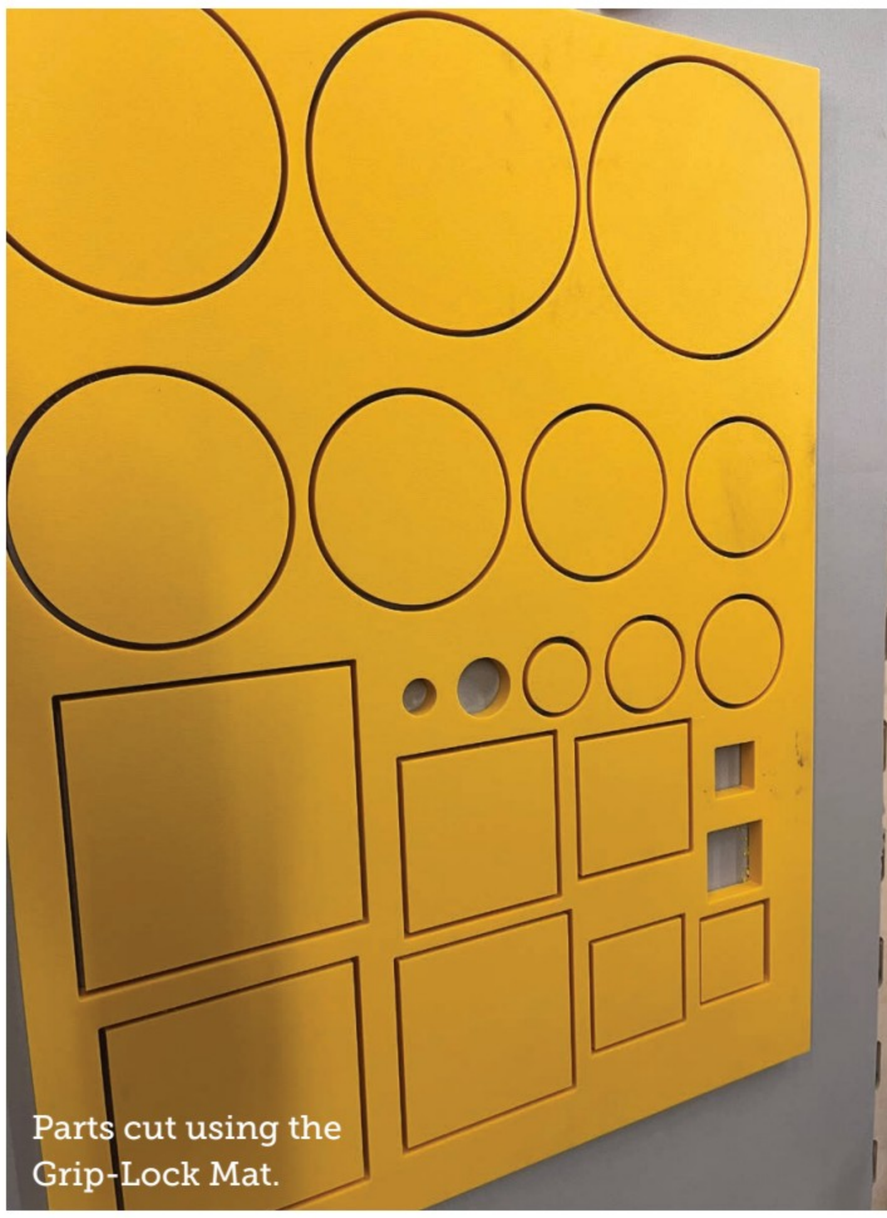
IWF Booth #A10213

Get a grip with the Grip-Lock Mat

By Jennifer Hicks

Black Box Vacuum Solutions introduces the Grip-Lock Mat for securing small workpieces on a CNC vacuum table.

The Grip-Lock is a 5′ x 10′ foam mat that eliminates the need for tabs or other hold-down accessories, according to the company. It sits on top of the spoil board, allows air to pass through, and uses friction to secure the workpiece.



Parts cut using the Grip-Lock Mat.

"The Grip-Lock Mat not only enhances machining precision and efficiency but also offers remarkable convenience and reusability," says company owner Bobbi Jo Shiu. "To use the mat, roll it out on top of your spoil board and start cutting.

"Once your machining is complete, clean-up is a breeze. Just vacuum or blow off any debris, roll up the mat, and it's ready for your next project."

The Grip-Lock Mat sells for $169.95. Learn more at *blackboxvac.com*. W

Courtesy of Black Box



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Researching the options

Choosing a joinery method often comes down to what tools, skills and experience the shop possesses

By John English

There are approximately 30 traditional joints in Western woodworking and countless mechanical (plastic or metal) fasteners. Many of those offer the option of disassembly and reassembly.

But choosing the right joinery method begins with an understanding of wood movement. That includes issues with cross-grain lamination, expansion due to resin or water absorption, and changes in ambient humidity and mois-



With OVVO connectors, panels can be clicked together without tools, glue or screws.









ture content. Harvested wood essentially moves across its grain rather than along it, while man-made sheet stock may move in all directions. Different species move at differing rates, and various cuts can affect movement. Rift and quartersawn boards move less than plain or flat sawn ones, so these cuts are favored for joinery in fine furniture. Joinery that restricts movement has a much higher possibility of failing over time, because one or more elements may change size and either shrink to create a loose joint or expand to cause cracks and fissures.

DEALING WITH STRESS

When considering which type of joint to use, a woodworker needs to consider how the connection will be tested in the real world. Stress on a joint is described as either compressive, shear, distortive (torsional), or tensioned. In the simplest terms, compression pushes parts together; shear pushes one part sideways or across the other and sometimes tries to snap it across the grain; torsion tries to rotate one or sometimes both parts; and tension tries to pull the joint apart. These stresses can be caused by adding a load (somebody sits on a chair); gravity over time; flexing and bending due to use (as in stair treads or boat masts); poor engineering and design (most often where parts are undersized); or activities that release captured pressure in the wood.

Every woodworker has heard of or experienced the latter, which is known as reaction wood. It's the force that causes the two halves of a board to take off in different directions as they exit a rip cut on the table saw. There's a lot of information about conifers, angiosperms, compression and tension that can help explain why this happens, but the overriding concern here is that wood which is misbehaving shouldn't be used in joinery. It won't grow out of its bad habits over time. Reaction is usually a result of the board being harvested from a trunk that hasn't grown straight because of wind, location, drought or disease, or else it was milled from a branch that grew laterally (sideways). In that case, the growth rings are different at the top of the branch than the bottom, so when the wood is released from the gravitational orientation in which it has grown, those stresses attempt to equalize.

Beyond reaction during processing, boards that have essentially stabilized are often rejected for joinery because of crooking, warping, cupping, twisting or winding. These are all words used to describe boards that refuse to lie flat in various ways. They may be kiln dried and seem as though they are done moving, but they haven't. These are not options for good joinery.



Twister DU 243 T from Hettich.

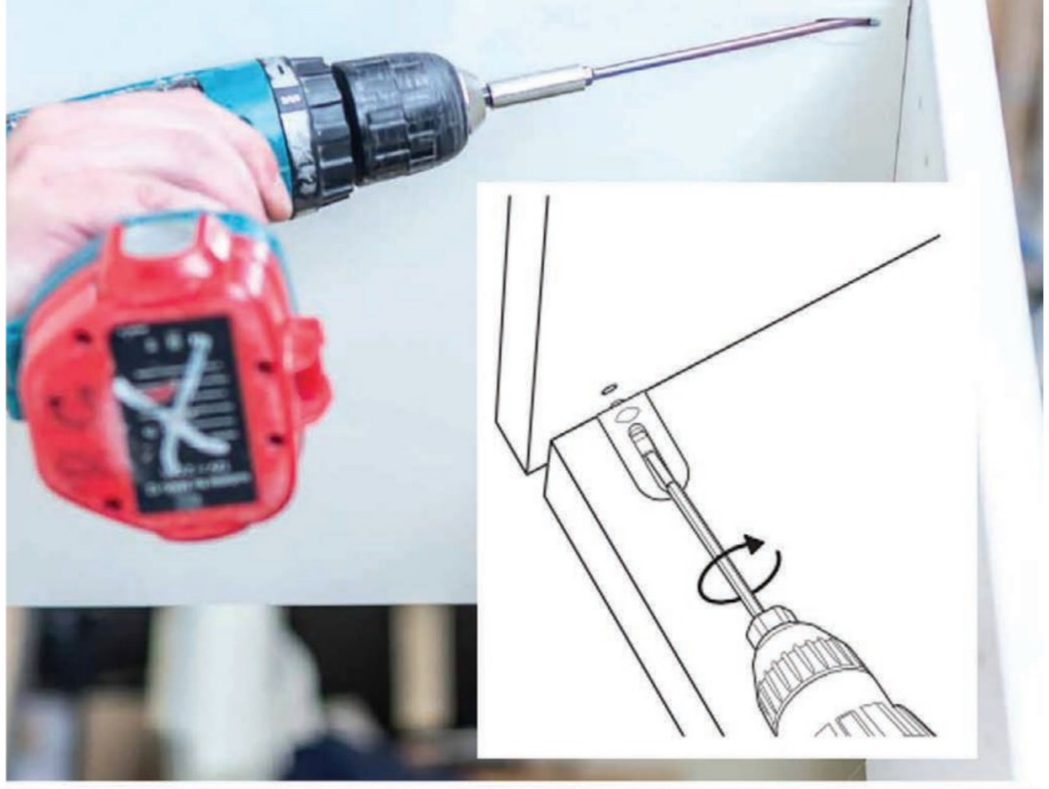
Wood strength is dramatically different along its grain than across the grain. Trying to split a wide plainsawn board across its grain is essentially impossible but splitting it along the grain is quite easy. It's the main reason that we predrill for screws, and it's a huge factor in choosing a joinery method.

CASEWORK JOINTS

Building boxes is mostly about attaching man-made panels to each other, so wood movement isn't as critical an issue here as it is with solid wood parts. There are three primary options. The woodworker can choose butt or edge joints that are reinforced with biscuits, dowels, or pocket screws. A second method is to use glued profiles such as dadoes, grooves and rabbets, and apply clamping pressure until the adhesive cures. The more common solution in medium and large shops is to use a mechanical connector, some of which encourage the use of glue while others don't. CNC processing facilitates the use of plastic and metal connectors, although almost all of them can also be manually prepped (the holes or recesses can be located with a tape measure and machined with drills and routers).

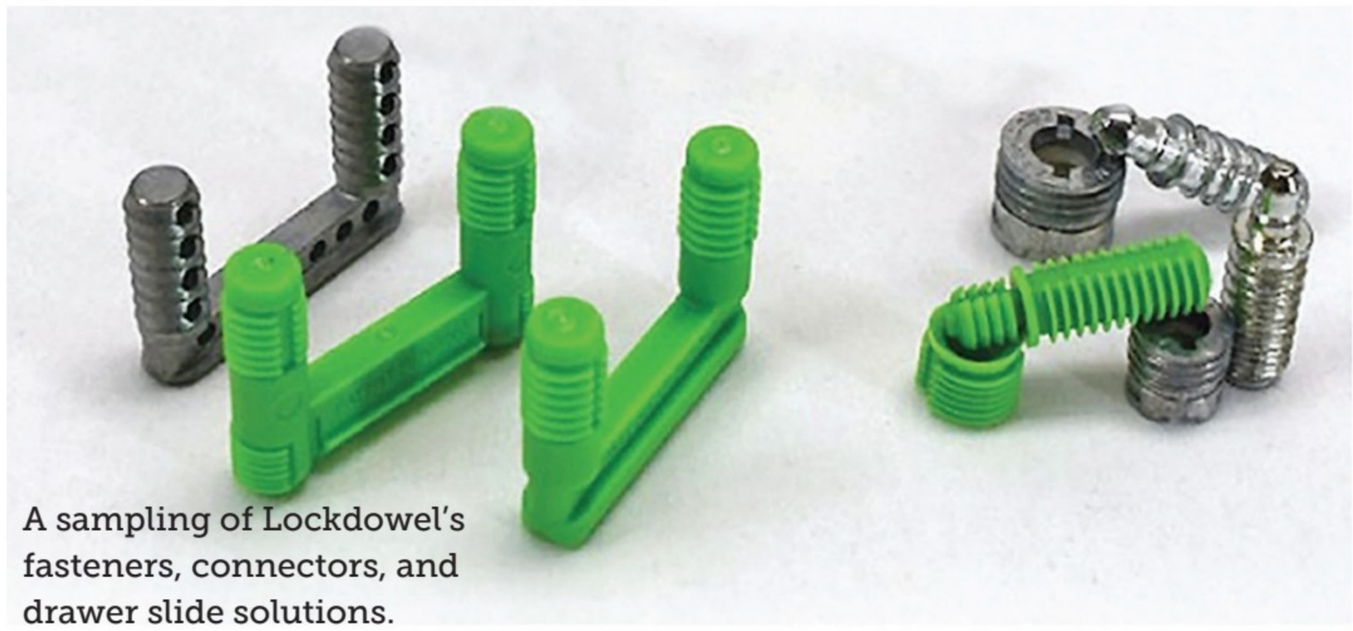
Choosing a mechanical connector requires some research. Some of the issues here are speed, strength, material thickness, cost per unit, and the ability to ship cabinets flat-packed and assemble or reassemble them on the jobsite.

Among the options are the Minifix connectors from **Häfele America** (*hafele.com*). One element of the connector, a small threaded housing, is inserted in the bottom or hidden face of a panel near its edge. The second half, an adjustable pin, extends from the face of another panel and the pin enters the edge of the first panel and keys into the

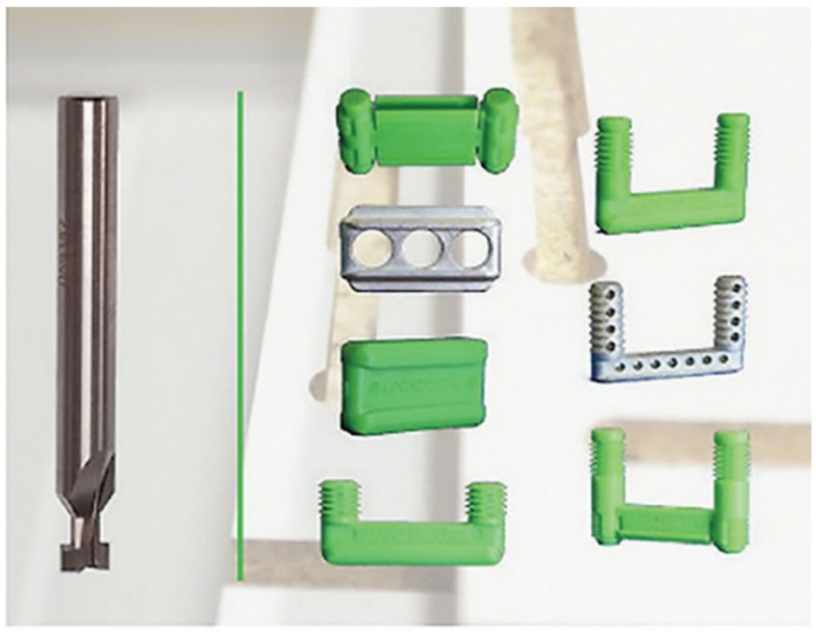




The Lamello Cabineo is a one-piece joinery option that only requires surface machining on a CNC.



A sampling of Lockdowel's fasteners, connectors, and drawer slide solutions.





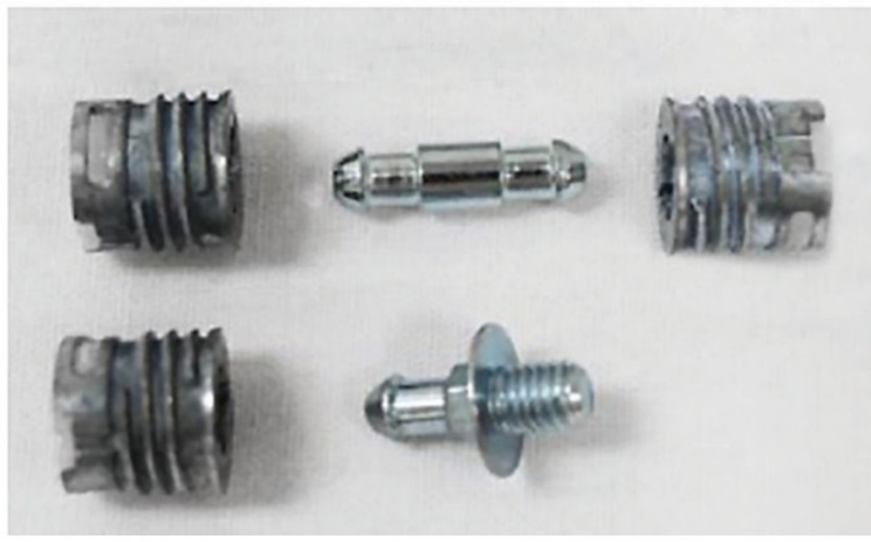












base. The two parts are locked together by turning a screw.

There are numerous variations on the dowel, including the Twister DU 243 T from **Hettich** (*shop.hettich.com*). The receiver screws into a pre-drilled hole in one part using a coarse thread, and then the second part is attached by tightening a screw that draws together an expanding washer for a snug fit.

Lockdowel (*lockdowel.com*) offers plastic and metal ribbed dowels in a selection of sizes and configurations that provide a tool-free, glue-free, rapid assembly solution for joining panels and parts, and also for installing slides. At its core is a friction fit joint that can be machined on a 3-axis CNC or with a manual routing set-up.

The orange dowel system from **FastenLink** (*fastenlink.com*) is a two-part, very strong joinery system that includes the plastic dowel (called a link) and a ramped pocket that receives it. Standard CNC routing and horizontal boring machines are all that are required to turn the links into a simple and fast manufacturing solution.

Several manufacturers offer pocket screws in bulk, and a few make complete joinery solutions based on this technology. Those include **Castle USA** (*castleusa.com*), **Kreg Tools** (*kregtool.com*), and **Armor Tool** (*armor-tool.com*).

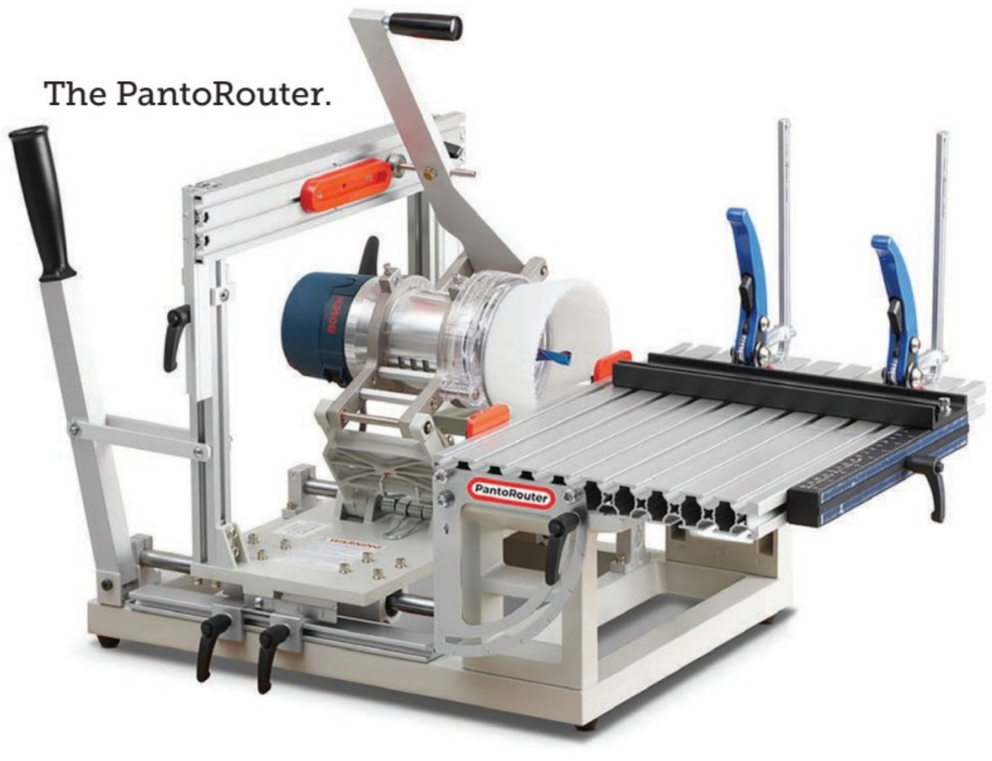
Cabineo 12 from **Lamello** (*csaw.com*) is a one-piece cabinet joinery option that can be used with any CNC because only surface machining is required. The Cabineo is installed in one board, either in the workshop or on the jobsite. Then the connector is screwed into a 5mm hole in the second workpiece.

OVVO invisible connectors (*ovvotech.com*) are installed during the manufacturing process so the end-user or the installer can click furniture together without tools, glue or screws.

Festool (*festoolusa.com*) makes a wide range of panel and cabinet connectors that take advantage of the capabilities of the company's portable Domino mortising tool. Among them are corner and center panel connectors in a variety of configurations.

Cabinotch (*cabinotch.us*) has developed an innovative joinery system for assembling face-framed and full-access cabinet boxes. It involves a patented interlocking joint, and the manufacturer delivers custom-sized, RTA cabinets that include the face frame, sides, backs, bottoms, tops and shelves.

Striplox (*striplox.com*) is a range of strong and versatile



The PantoRouter.

Images: Courtesy of manufacturers



The FastenLink system features a plastic dowel that slides into a tapered groove.

mechanical joining systems that allow simple, safe and efficient assembly, without complex methods, processes or multiple parts.

Hoffman (*hoffmann-usa.com*) makes a clever plastic floating dovetail system that includes both the connectors themselves and a range of tools and machines for installing them.

Starting with connecting systems for furniture, **Knapp Connectors** (knappconnectors.com) has expanded to create wood connectors for case goods, stair makers, timber construction, and more. All the wood connectors are hidden, self-tightening and can be snapped together for fast assembly.

Titus (*titusplus.com*) makes a full line of cabinet and furniture connectors that are homeowner friendly.

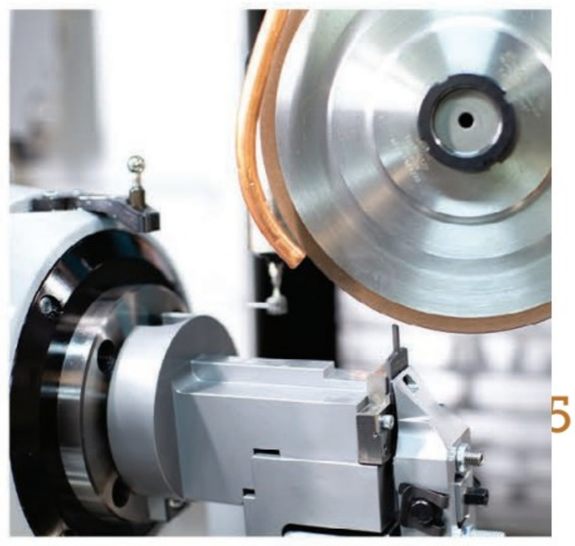
And for joinery on the CNC that requires non-ferrous fasteners that won't harm bits during contact, **Lignoloc** (*beck-fastening.com*) is the world's first shootable wooden nail, and **Raptor** (*raptornails.com*) makes plastic composite staples, nails, and specialty fasteners that can be cut and sanded without damaging router bits, saw blades and sanding belts, and also provide complete corrosion resistance.

FURNITURE JOINTS

These are most often connections made between solid wood parts, rather than man-made sheet stock. The most







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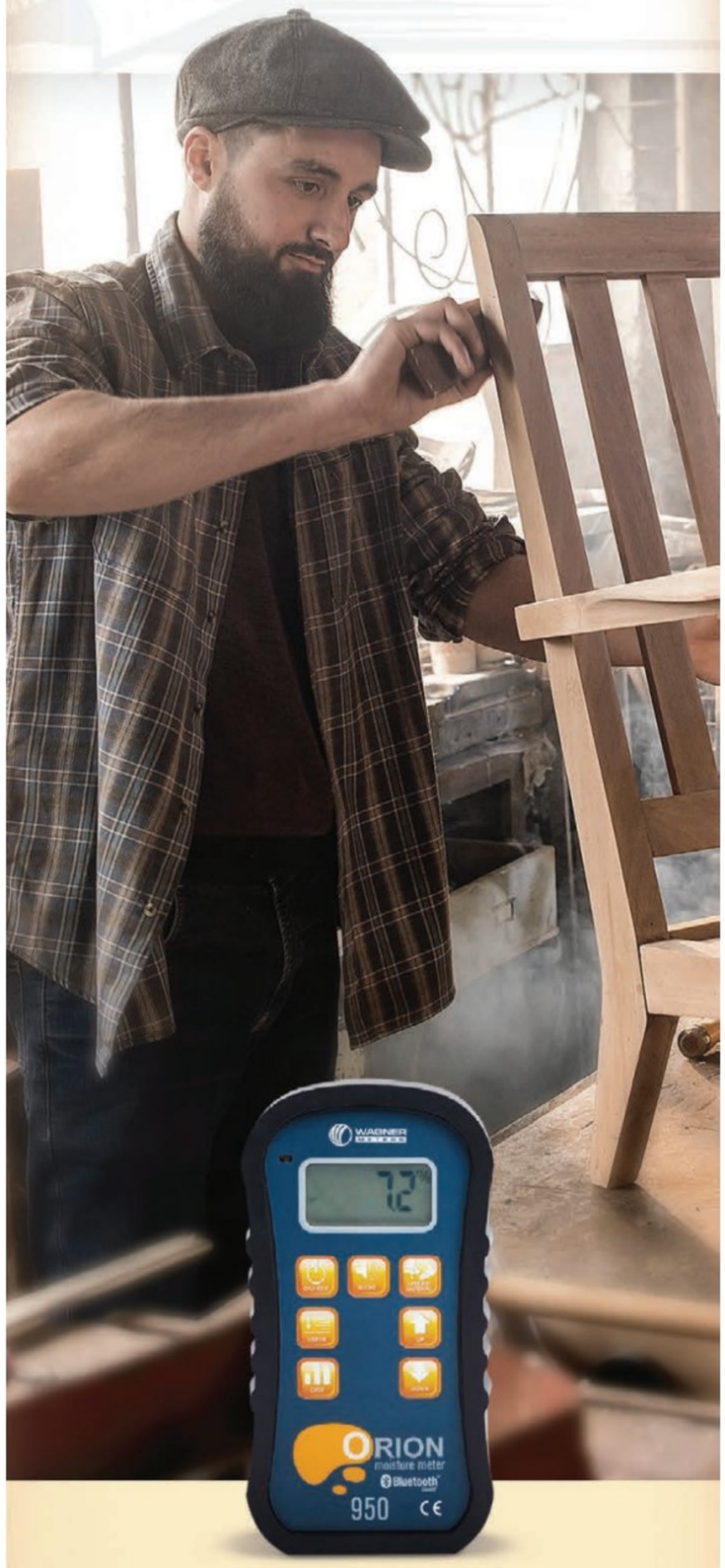

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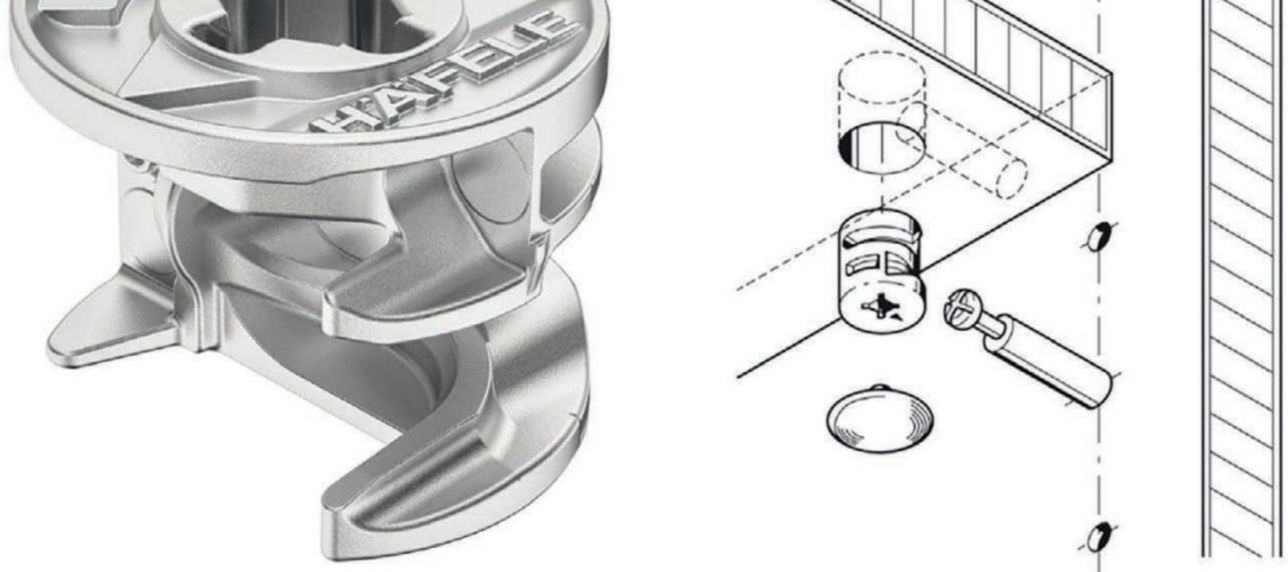
common are repetitive drawer joints such as the box/comb/finger, or various iterations of the dovetail including blind, half-blind, through and sliding. Box joints are easier and faster to mill and assemble than dovetails, and while they're not as strong, they are more than adequate. Both joints can be milled with jigs for table saws and router tables, or with specialized machines such as the **PantoRouter** (*pantorouter.com*) or **Shaper Origin** (*shapertools.com*).

Traditional assembly of parts such as aprons, legs and frames calls for single rather than repetitive joinery including bridles, castles, and tenons. A bridle is essentially a mortise with one open wall, and a castle is a more complex joint where three parts meet, such as two parts of an apron at the top of a leg.

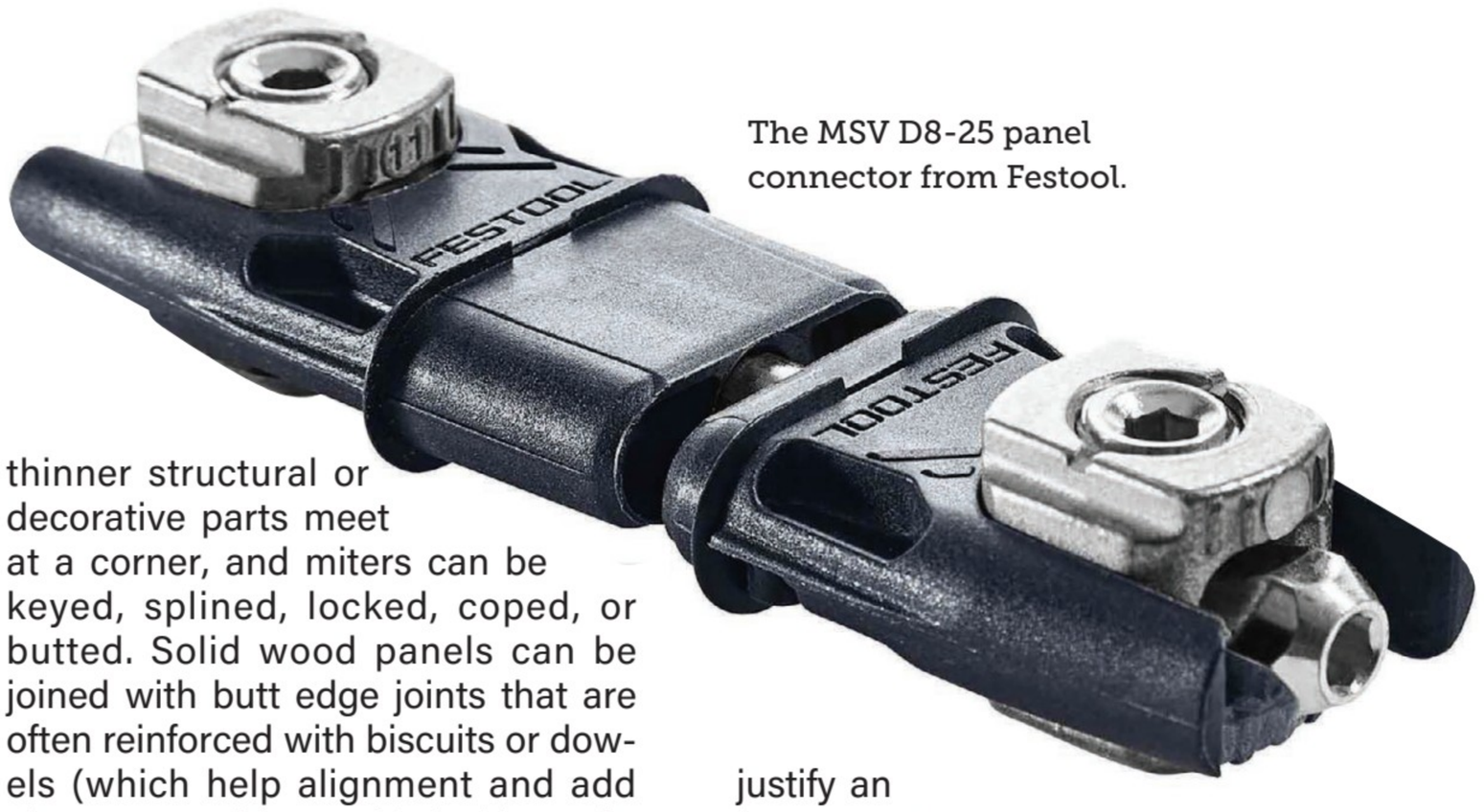
Tenons are the most versatile joints as they can assume many forms. The floating tenon has two mortises, and some mortised tenons are secured with pegs or wedges. The woodworker can add visual impact by using a through tenon that has an exposed end which lies proud of the surface.

Mitered joinery is an option where



The Minifix line of connectors from Häfele uses a threaded housing and a pin to draw parts together.





The MSV D8-25 panel connector from Festool.

thinner structural or decorative parts meet at a corner, and miters can be keyed, splined, locked, coped, or butted. Solid wood panels can be joined with butt edge joints that are often reinforced with biscuits or dowels (which help alignment and add shear strength), or with locking rabbets, or tongue and groove joinery. And long, thin pieces can be joined with scarfs or half laps, to add both visual appeal and strength.

Choosing a joinery method often comes down to what tools, skills and experience the shop possesses.

A lot depends on how frequently jobs call for specific joints, and whether that volume of work can justify an investment in automation. There is great satisfaction in using hand tools to execute a perfect dovetail, but if that's more than an occasional activity then a jig, machine or CNC may be the best joinery option. Esoteric experiences are good for our souls, but they're not always the best solution when it comes to paying the bills. **w**





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ON THE *FAST* TRACK

Residential built-ins and shelving by Greene Street Joinery .



New Jersey shop thrives in new, larger space with enhanced machinery and social media push

By Jennifer Hicks

Greene Street Joinery of Keansburg, N.J., is a relatively new venture experiencing a good streak of progress. Owners Jeff Krug and Rob Barone (above) formed the company in 2019 with a third partner who has since retired. Volume gradually increased leading Krug and Barone to move from a small barn to a 4,900-sq.-ft. shop on Main St. where they continue to crank out custom projects.

"The whole reason for wanting to move was to be able to grow the business by being more competitive and faster, and sales have gone up steadily each year. We were close to half a million last year, and this year we expect [sales] to be higher," says Krug.

The two primarily build kitchens and built-ins for homeowners but are mindful not to put all their eggs in one basket. They have additional streams of revenue, including a commission to build batch products with a laser cutter and social media pursuits.

THE BACKSTORY

Krug, 35, started in the restaurant industry and got into carpentry after Hurricane Sandy devastated the area in 2012. He met Barone on a jobsite in 2016 while working as the lead finish carpenter for a custom builder. Barone, 62, had been working for Thomas Charles Cabinetry in Long Branch, N.J.

"Rob and I sort of hit it off right off the bat because I was acting as stand-in project manager," says Krug. "We started chatting and saw each other over the course of the next several months when we were working around the house. Flash forward to 2018, the shop Rob worked for was looking for help and I was ready to move into cabinetry, so I interviewed and took the job."

Shortly thereafter, Barone, who had run his own woodworking business, Barone Woodwork, for 15 years prior, decided to work solo again. Krug joined him several months later, along with Rich Szpakowski. The three formed Greene Street Joinery, an homage to the Greene & Greene brothers from whom they draw inspiration in terms of design ideals. Szpakowski left the company in late 2020.

"It was just Rob and I working out of his shop, an 800 square foot pole barn on his property," says Krug. "We were doing a lot of inset cabinetry and furniture directly for homeowners and trying to get in with some builders and designers. By the fall of 2022, we were really busting at the seams. We had all this work but were unable to compete because we couldn't fit the machinery that we needed in there."

After an extensive search, the two found their new shop and moved in the first week of 2023. Since the move, they've acquired a Cehisa Compact PCS edge bander, Hammer HS950 edge sander, Gannomat Optima 25 construction boring machine, and Striebig Compact 5x10 vertical panel saw.

MIXED BAG OF PROJECTS

Residential work for higher income clients is the core of the company's product offerings.

"At this point, we're probably doing 70 percent residential and 30 percent commercial. We've gotten in with some good designers, so we're doing nice work with them, lots of built-ins, stuff like that, some kitchens," says Krug.

"We've gone as far as the Hamptons (N.Y), all the way out to Bridgehampton. But we mainly stick around this area in Jersey City, Hoboken, and those suburbs sort of adjacent to there, Livingston, West Orange, and Montclair. We've shipped product to Aspen, Colorado and Naples, Florida."

The shop completes up to three dozen major projects a year. The partners have their own unique talents but share many roles. Krug says Barone has been a strong mentor.

"Rob is definitely the more artistic one, I would say, but he's reached a point in his career where he's given me the reins and lets me do more of the design work and the pricing because at some point it's going to be my company."

Back in 2022, they were commissioned to make Kenji



& Leone salt cellars, which are finger-jointed wooden salt boxes made with cherry and walnut.

"We've been making these for two years now," says Krug. "We make about 1,000 a year in two batches of 500. They're for Kenji Lopez and Brad Leoni, two famous chefs. They found us on Instagram. So, we've been making these for them, and $25 of every box sold gets donated to No Kid Hungry. It's a great project. Our last batch of 500 sold out in eight minutes."

To speed up the process, they purchased a Boss LS1630 105-watt laser, which paid for itself after the first batch.

"We thought about trying to use the laser as a means of bringing in more income in other ways, but it's just not something we've devoted a lot of time into figuring out what we could make. As a small business owner there's so much going on all the time and so many fires to put out it really hasn't manifested into anything," says Krug.

WHAT'S IN THE SHOP

- Striebig Compact 5' x 10' vertical panel saw
- Cehisa Compact PCS edge bander
- Oliver 5-hp shaper with a Steff/Maggi powerfeeder
- Nova Voyager drill dress
- Boss LS1630 105W laser
- Delta Unisaw
- SawStop ICS cabinet saw
- Oliver 4240 10" jointer
- Powermatic 15HH helical-head planer
- Grizzly G0513 17" band saw
- Grizzly G0819 wide belt sander
- Hammer HS950 edge sander
- Omal Insert C hinge boring machine
- Gannomat Optima 25 construction boring machine
- Detel MV-23P line boring machine
- Quincy QT-7.5 compressor
- Oneida 5-hp Super Dust Gorilla Cyclone
- Grizzly G0672 5-hp dust collector

CONTENT CREATORS

Greene Street Joinery recently started a YouTube channel, Today's Craftsman, with John Peters, a nearby craftsman and veteran of the medium. The content has focused on how it's done in a professional shop.

"We've known John for years and finally decided to collaborate on this channel," says Krug. "We want to be 'the source for the modern woodworker' and we're trying to give these concise and informative videos that don't have all the fluff and theatrics like a lot of these YouTube woodworkers. A lot of them are hobbyists but we're the real deal. Not to toot our own horn, but we do this 50 to 60 hours a week. So, we have some great information we can pass on to others.

"It's a slow growth where we're seeing any real money through the ads, but the idea is for it to be a true source of income at some point. We also do a weekly podcast, the American Craftsman. It's just Rob and myself with guests like other woodworkers, carpenters, interior designers, etc."

Krug says that aside from the business exposure and potential income that surrounds using social media, a big return on the investment is networking.

"I can reach out to dozens of different people who work in this industry and ask how they do something, price something. It's like a guild with access to people all over the world."

LOOKING AHEAD

Krug feels the shop is in a solid market with plenty of work to be found.

"There are a few cabinet shops around here but there's enough work to go around, and we don't have any sort of animosity towards other cabinet shops. We're of the mindset where a rising tide raises all ships, so if they're doing better it's going to be good for us. If they can get paid more,

Photos: Jennifer Hicks

then we can get paid more."

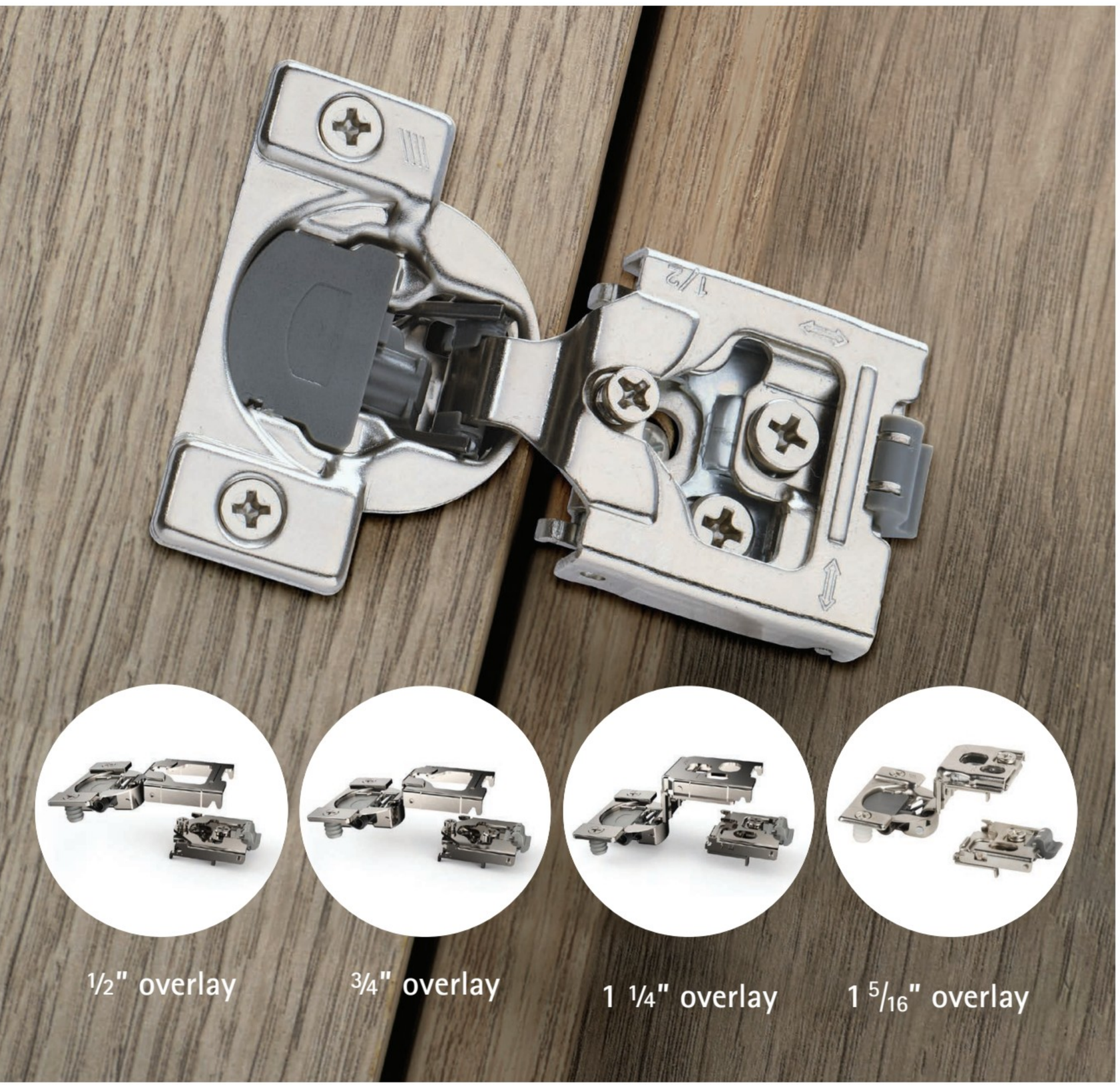
The abundance of work, however, leads to the inevitable issue of finding more help. Krug and Barone currently have a part-time administrative assistant to help with bookkeeping. They're looking to hire a craftsperson as soon as they can, especially with Barone nearing retirement.

"I'd say we're on the precipice of where it's getting to the point that we need someone. Last year we went through a period where we had eleven jobs going at one time," says Krug.

"The plan with this shop was to have not only the space, but the ability to take on an employee. It's something we always talk about, but we want to be ready for it financially where we can give someone a well-paying job, a good job, and not just bring someone in for minimum wage and not have them work certain days. I would rather stretch myself to get something done than bring them in and not be able to keep them working."

Learn more at *greenestreetjoinery.com*. **W**





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Hettich



A photo rendering produced with the Cabinet Design module from CabMaster Software.

Choosing CNC software

Sorting through the myriad of design and machining options

By John English

Many woodshop owners and managers feel a bit challenged when it comes to software. They're woodworkers, not engineers or programmers, and it's a different skill set. Learning about new technologies can be daunting at best and is often utterly confusing.

CAM software for running a CNC might be less of a challenge than CAD. That's because woodworkers are used to setting up and running machines, so that can make things a little more intuitive. But learning how to use professional CAD design software requires a huge time commitment and it can be quite intimidating. Even when the basics are conquered, the vast potential of most programs can leave woodworkers feeling as though they're not getting enough out of the tool. They know they can do more, but how?



Working in 2D is manageable for most of us, but when that third dimension comes along, it can leave one dazed and confused. Yes, over time osmosis seems to work. We absorb a grain here, a speck there, and soon we're almost functional, until a new version updates automatically in the middle of the night. Most shop projects can be drawn in 2D and sent to the shop floor, and this is what the industry used for centuries: simple scaled plan views, elevations and section drawings. Shop owners without a CNC might feel as though they can do drawings on paper just as fast as CAD, but those lucky enough to have a CNC know that they can create parts lists and labels and send the job to the machine using files that were generated from their drawings.

3D modeling is a great tool for furniture designers and builders. Being able to twist and turn an object in virtual space and see how its elements relate to each other is a real joy, especially when one is defining scale and working to size. And for cabinetmakers, most CAD programs now have rendering functions that will deliver at least a well-drawn, full-color, 3D sketch, and usually a photo-quality simulation of a completed project.

There was a time when we looked at CAD and CAM as separate tasks, but almost all of today's software packages handle both jobs and have options to do with marketing, inventory, time tracking and production issues. As much as phones have taken over our lives, software is taking over the shop. It's an immersive experience that continues to automate more and more chores, and finesse those that are already in its purview.

On top of that, artificial intelligence (AI) is just beginning to peep over the horizon at us. Until now, computers have been able to handle our questions because we gave them all the answers, and they just had to search through the data to find the most relevant solution. The next generation of software (and it is already here) can 'think'. It can combine and interpret data to generate a unique and completely new answer – not just a verbatim response that was programed into its memory. It is deductive reasoning that has been flavored with nuance. Humans reason deductively too, but they also use emotional responses and perception (such as noting somebody else's body language or personal preferences) to make decisions. The software is now beginning to simulate those responses, and it's catching up with us very quickly.

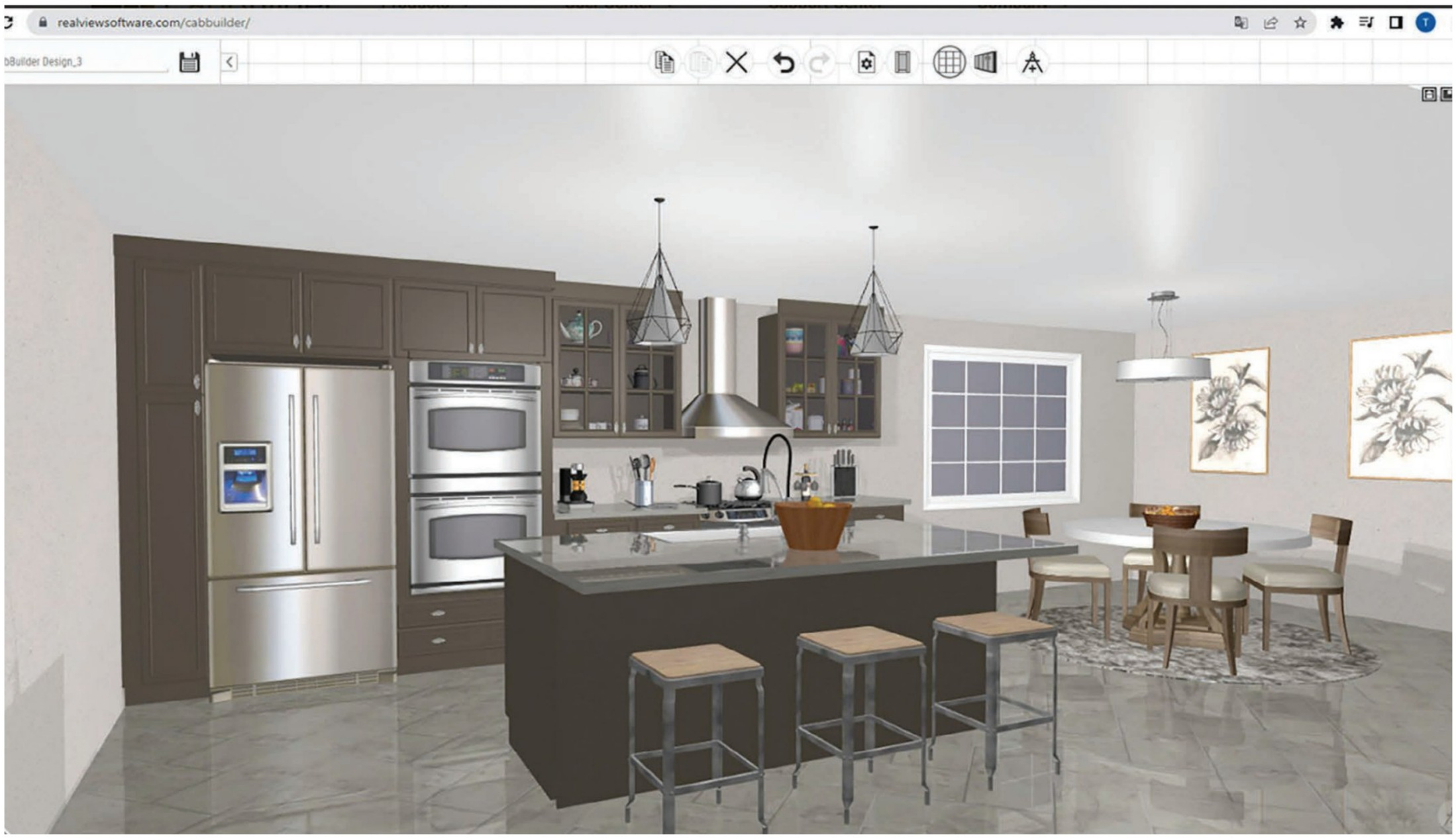
In the woodshop, AI is beginning to help us optimize workflows, production sequences, and data analysis. It is also lending a hand with maintenance, predicting when elements of a machine or tooling may succumb to wear patterns or lubrication reduction, and require our attention. As we continue to automate and perform more tasks on CNCs rather than using traditional equipment such as table saws and routers, AI is being used to monitor more machines to minimize downtime, increase production, reduce rejects, and improve quality.

It's important to keep this evolution in mind when choosing CNC software. It's where we're all headed.

COMPREHENSIVE PROGRAMS

Woodworkers using Alphacam have watched it evolve into what its parent company, **Hexagon** (*hexagon.com*), describes as "intelligent and intuitive CAD/CAM software." It's a professional CNC software solution with a core package that allows a woodshop to import drawings, generate toolpaths, simulate a production run, and create reports. There are many different modules that can be added to the core, including xPositional for machining on an angle; xSimultaneous, which supports 5-axis machines; xNesting for optimized nesting of parts; xFixtures to control the design, placement, and simulation of clamps and fixtures; and xRobotics, which gives a woodshop the ability to output tooling and toolpath data for third-party robotic post processors.

Hexagon describes its Cabinet Vision package as "the



CabBuilder offers real-time 3D rendering that delivers instant visual feedback as a project is edited.

industry leading design for manufacturing software for residential cabinet manufacturers." The package contains options for residential cabinetry, commercial casework, closets and storage. Modules include x2AC, which allows users to output native Alphacam drawings; Design, xCRM for customer contact management; xShaping, and xRendering, among others.

The new version Essential from **CabBuilder** (*cabbuildersoftware.com*) lets the woodworker create and manage libraries of designs, and access plans from thousands of ProKitchen designers and dealers. It draws with a real-time 3D rendering window that delivers instant visual feedback as a project is edited. As with most comprehensive CNC software packages, the CabBuilder Workshop module will optimize cutlists and nest them on panel stock. Workshop will also keep track of cuts and mark deficient materials for re-nesting and generate labels for parts organizing. The CNC module in CabBuilder converts drawings to machine program codes and simulates the generated toolpaths to give a full picture of how the machine will act. Plus, there's a cut job management system to keep track of projects and unused materials.

Cabinet Pro (*cabinetpro.com*) has purchase and rental rates that the company says brings "CNC technology into the price range of even the small one-man cabinet shop." The program will deliver detailed shop and finished drawings including floor plans, 3D renderings and elevations. It generates unlimited user-defined cutlists, material and door reports, bidding and invoicing. It will also optimize panels and deliver automated CNC processing. Packages include cabinet and door drawing software for both traditional machines and CNCs.

CabMaster Software (*cabmastersoftware.com*) offers Cabinet Design, a 3D design generator with plan and elevation views and output to a cutting list. Other elements in the suite are Cabinet Machining, which can create a list of cabinets and DXF files with all drilling and machining; Part Machining, which can create shaped parts and output for full machining, and Door Machining for profiles and output to machines. The profiles can be controlled parametrically and reused as is, resized, or as a template for a new design.

UPDATES AND OPTIONS

The new edition of **Cabwriter** (*cabwritersoftware.com*) is described by the publisher as "offering enterprise level capabilities at entry level prices." Several features have been added, including sheet good optimization for manual cutting or the option to use CabWriter CNC to export nesting. Another new feature is the ability to draw drawer boxes with each of the parts appearing on the cutlist and/or in the DXF files. The new version also supports edge banding slab doors and drawer fronts. Cabwriter uses the power and ease of Sketchup Pro to render cabinets.

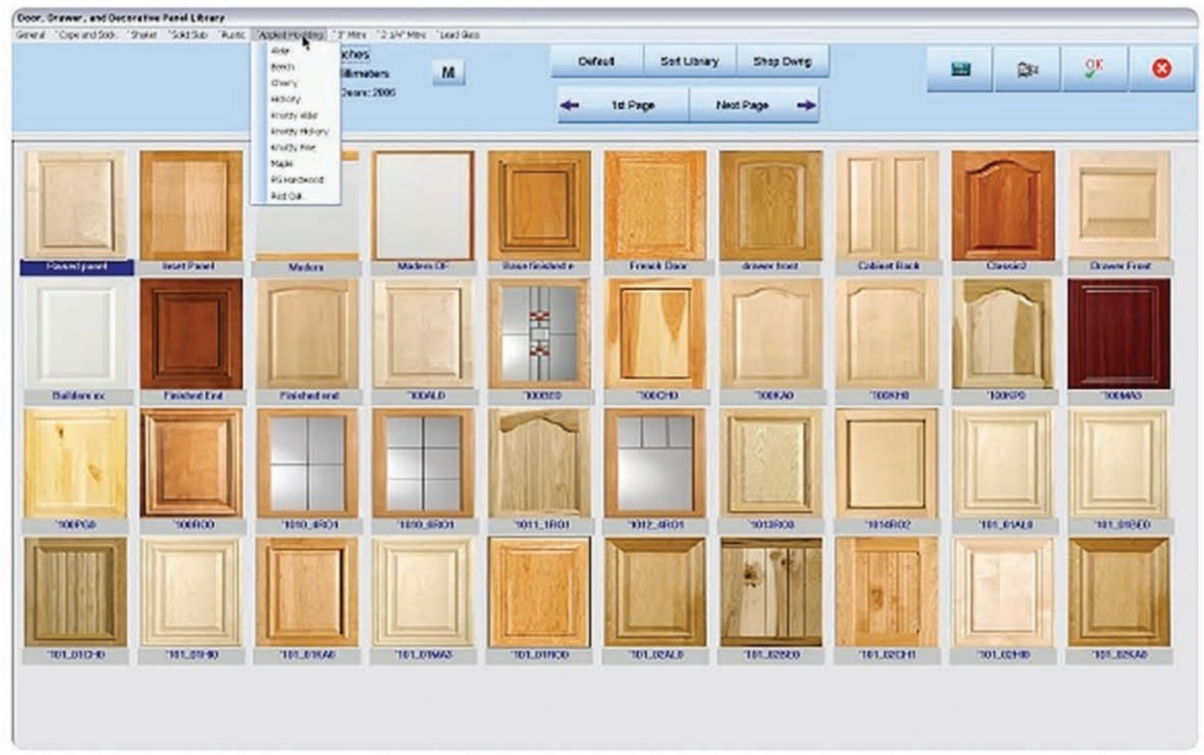
EasyWood from **DDX Software Solutions** (*ddxgroup.com*) is a CAD/CAM suite for cabinet and furniture builders that the publisher says is "simple and intuitive, all functions are at a click, and it can also be used by those who have no particular computer skills." It handles panels, nesting, a wide selection of file format imports and exports, parametric drawing, 3D modeling, vectoring, aggregates, simulations for collision avoidance, and machining for 3, 4 and 5 axis CNCs.

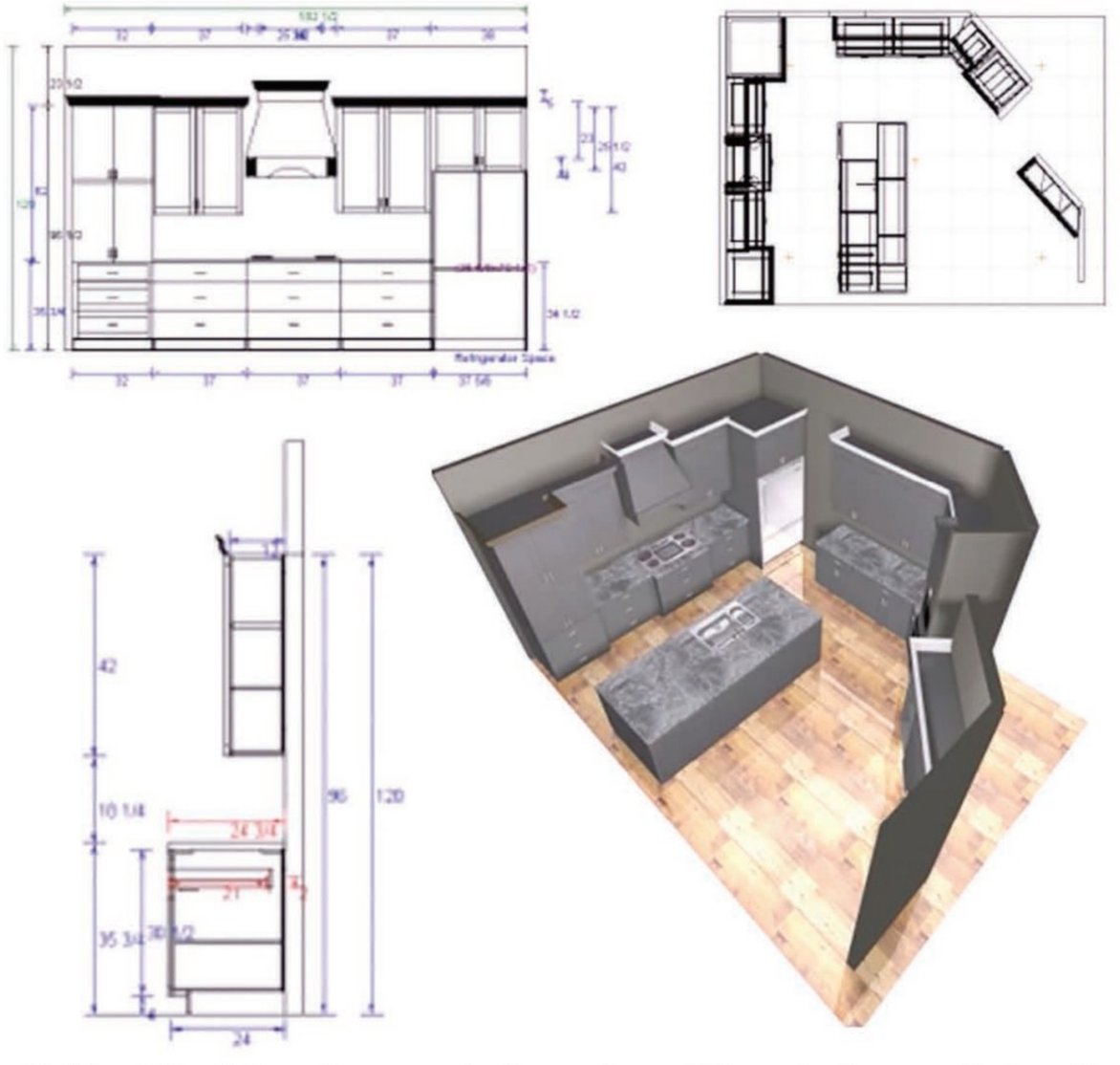
EnRoute from **SAi** (*thinksai.com*) is a CNC software solution for everyday cutting, nested-based production,

and creative design applications. It provides a combination of 2D and 3D design and toolpath capabilities for CNC routers. EnRoute can find inside corners and automatically apply a relief to create a sharp corner, giving a finished piece the feel of a more traditional woodworking job. It can also simulate a rendered view of the design to catch mistakes before output of the final piece. And all tool shapes are accurately drawn, allowing both 2D and 3D toolpaths to be rendered.

KCD Software (*kcdsoftware.com*) offers lean solutions that are geared to the way a shop likes to build. It lets the woodworker design and price on the fly using easy-to-set manufacturing details. For CAM, it offers a one-button solution which is part of a concerted effort to make the suite easy to learn. There is excellent phone support, no annual maintenance fee, free upgrades, and a shop can rent the software for 31 days. It handles frame and frameless construction and has cloud-based sharing capabilities that make it simple to share specific files between the supplier, shop, office and homeowner. KCD also works with Cabinotch, which lets a woodshop outsource machining of custom cabinet boxes, doors and drawers directly from a design.

Mozaik Software (*mozaiksoftware.com*) is a design-to-manufacture solution for shops using either traditional machines or CNCs. The basic suite, Manufacturing, is recommended for non-CNC cabinet shops and is used for designing, visualizing, generating door lists, drawer box lists, cut lists, hardware and material requirements, submittal drawings and other manufacturing essentials. Mozaik CNC includes that plus nesting, machine-ready G-Code, and more. And the company's Enterprise solution is tailored for larger custom cabinet shops with features designed to enhance workflow, minimize risks, manage users, and eliminate production errors. Everything in Mozaik is communicated to the shop floor through paperless tablet applications for labeling, cutting and assembling.





Cabinet Pro lets a shop create floor plans, 3D renderings and elevations, plus custom door libraries.

OTHER SOLUTIONS

There is an endless well of software options, and each has its own dedicated family of users. Some are best suited to large production environments, while others are tailored to the needs of small, even one-man shops. A few are quite popular with skilled hobbyists who own a desktop or basic CNC. The best way to navigate through the options is to visit discussion boards on woodworking websites, or visit a large industry show and start some conversations.

Following is an alphabetical survey of many of the more popular packages:

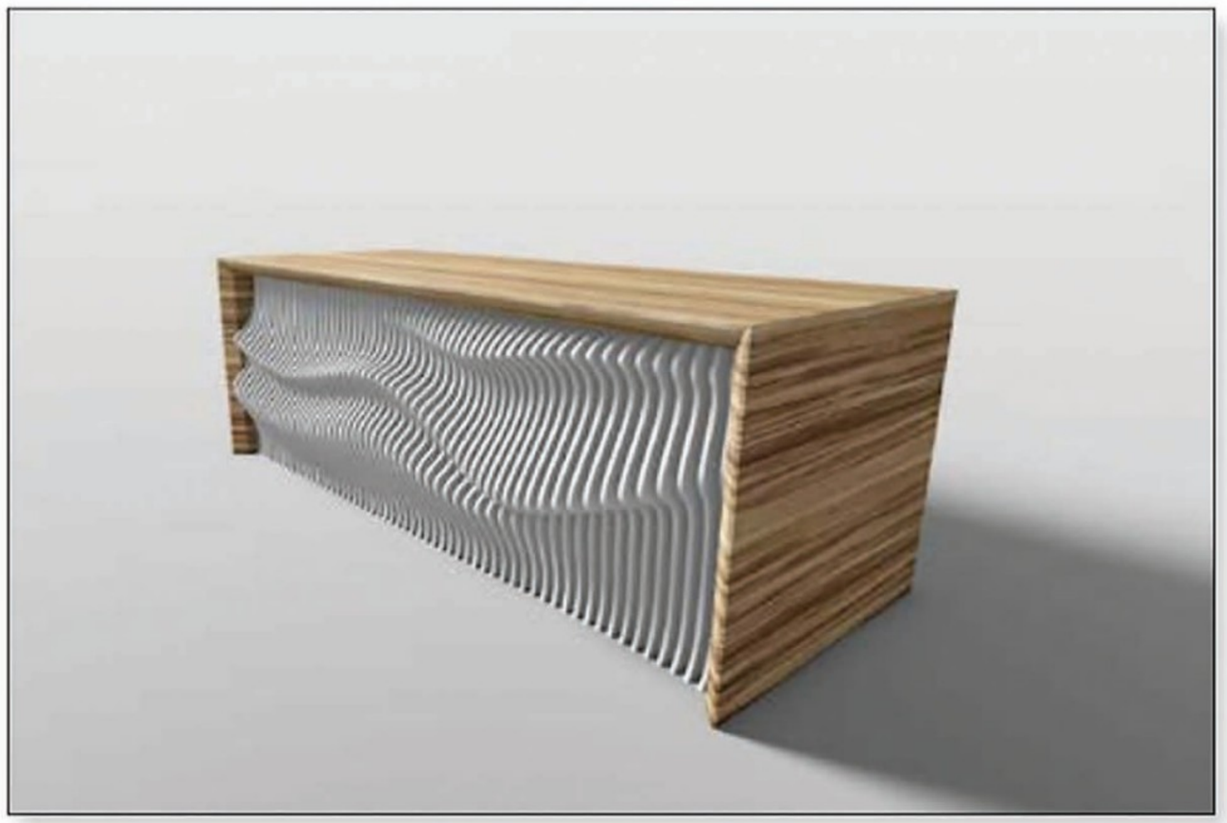
Architects and engineers often favor **AutoCAD** (*autodesk.com*), which is an industry standard that lets a draftsman design and annotate 2D geometry and 3D models with solids, surfaces, and mesh objects. It can automate drafting tasks to place objects with AI, compare drawings, create schedules, publish layouts, and more. AutoCAD 2025 includes industry-specific toolsets, new automation, and insights that can access and track essential design data using detailed multi-user event logs.

At the other end of the spectrum, **Crafty Amigo** (*craftyamigo.com*) is a free app that has a huge parts library for small shops and hobbyists to design their own solutions.









DDX Software Solutions has a virtual reality module to preview designs.

EPIK (*epikltd.com*) offers CNC software for CAD/CAM/CAE (computer-aided engineering), and ERP (enterprise resource planning).

Eurosoft (*eurosoftinc.com*) offers modules including BlueCell for optimization, nesting and automation software; InStock for organizing and tracking stock material and reusable remnants on the factory floor in conjunction with a shop's optimizer; and ImPrint, which can print labels with detailed part information, barcodes, drawings and other images.

Fusion 360 is a popular AutoDesk product that offers CAD, CAM and CAE for Windows and Mac, plus simplified versions available as apps for Android and iOS.

MacDraft (*microspot.com*) is a relatively inexpensive 2D CAD software that is native to MacOS. The newest version, MacDraft 8, is designed for architects, engineers and construction services as well as professional CAD users, designers, educators and hobbyists.

Microvellum Software (**microvellum.com**) is a drawing solution for projects that include everything from simple cabinetry to advanced configurations for residential and commercial applications. It includes industry standard CAD toolsets for designing with automation, estimating, planning, manufacturing and production. Microvellum's clients include shops that produce architectural millwork, residential cabinetry including kitchens, baths, and closets, as well as commercial interior fit-outs in office, hospitality, education, and healthcare environments.

RouterCAD (*routercad.com*) is an all-in-one solution for woodworking cabinet design, door design, and drawer design. This software from the manufacturer of the Boss CNC provides a CAD-based drawing engine, cabinet libraries, cross sections, assembly sheets, material optimizer, custom report center, cabinet and part labels, and submittals and title blocks. There are quick-start templates, and it lets a woodworker choose a cabinet design template or door design template that is most similar to the project at hand, and then customize it.

RSA Solutions (**rsasolutions.com**) offers several modules that can help a shop streamline activities, such as estimating, customer management, project management, manufacturing processes, purchasing and inventory.

SelfCAD (*selfcad.com*) is a 3D modeling software with built-in interactive tutorials. A woodworker can access it through a browser or download it to work offline, and there is email-based support. There's a free version and SelfCAD Pro, which costs $14.99 per month.

Shapr 3D (*shapr3d.com*) models 2D drawings and works on iPad OS, MacOS, and Windows. The basic version is free, while a Pro version costs $25 per month.,

Sketchlist 3D (*sketchlist.com*) is designed for woodworkers and uses familiar terms and practices. It involves just

Images: Courtesy of software companies

three steps: inserting virtual boards, cutting them to size, and locating them in the design. The model appears instantly on the screen, and the software automatically generates the layouts, spreadsheets, drawings, and cut lists.

Long a favorite among hobbyists and small shop owners, **SketchUp for Woodworking** (*sketchup.com*) offers "the joy of drawing by hand and the ease of super-smart 3D modeling software." It's an easy-to-use 3D modeler that lets a woodworker think through and pre-build projects on the computer before tackling them in the shop. This free program is one of the easiest ways to learn how to draw in 3D.

SolidWorks (*solidworks.com*) provides "a common model for developing complete and accurate designs that can be leveraged across planning, equipment design, layout, fabrication, and construction." It will also create photo-realistic renderings and fabrication drawings.

TurboCAD (*turbocad.com*) is a CAD software application for 2D and 3D design and drafting that runs on MacOS and Microsoft Windows.

And **Vectric** (*vectric.com*) is an employee-owned software development company specializing in applications that are "designed to make cutting parts using CNC technology a highly productive and enjoyable experience." Its product line includes Aspire, VCarve, Cut2D and Cut3D. **w**



Among the modules available for Alphacam is one called xPositional, which is for machining on an angle.





Richelieu Hardware's OPLA Folding is a sliding extension mechanism that instantly increases countertop space.

Adding function and style

What's trending and new in the hardware aisle

By John English

Decorative pulls and knobs are more than mere accessories. They can define a look and deliver a message. But the massive array of choice in hardware has always been a challenge for cabinet shops. What do you stock or offer? Will hardware on a display kitchen make it look dated, or perhaps just appeal to only one market segment?

When it comes to appearance, smooth matte black has had a long run. But times are changing and as color creeps back into kitchens and baths, decorative hardware is following suit. Bright brass hardware on charcoal or dark blue doors is popular again, but with a tactile twist. The hottest hardware has a hammered, knurled or brushed topography that tingles fingertips. And it's not just bright metals — even matte hardware is growing bumps and undulations that in-

terrupt those smooth, sleek surfaces. On high-end kitchens, that texture is coming from studios and smithies rather than large foundries or factories. Handmade and highly customized hardware is hot this year, and pieces created for a specific client or space are gaining ground over designer collections.

The mainstream market is catering to this trend by adding a little clash and conflict. Manufactures are creating looks that pair seemingly contentious metals with each other: copper and nickel, or perhaps stainless steel and bronze, are now occupying adjacent spaces. One of these might be used on bases and the other on uppers, or they may each claim a wall or an island. The object here is to add subtle differences to doors and drawers that suggest a mildly eclectic but creative lifestyle.

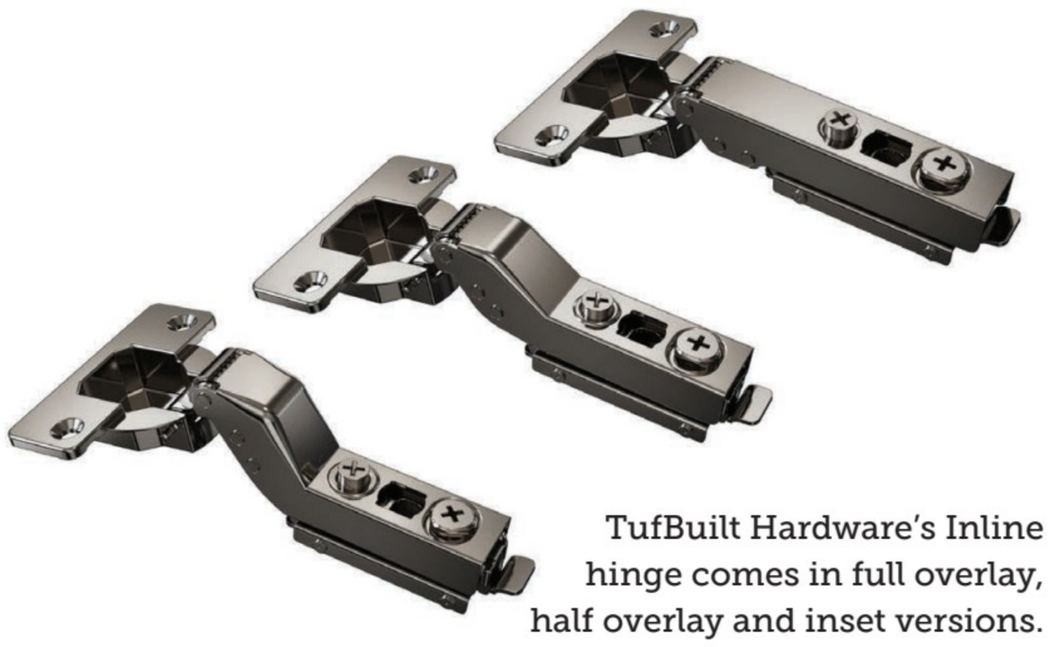
And size can be a modifier here. There's a trend toward smaller pulls and knobs that lessen the impact of change, while still providing the designer with a versatile palette. The smaller the knobs, the more likely it is that they will be used to introduce a little drama. So, ceramics and painted patterns are hot, as are custom, thematic shapes that reflect the homeowners' interests, hobbies or lifestyle.

In five-part doors, the simple appeal of Shaker still tops the charts. That clean look can allow a designer to indulge a playful appetite when it comes to hardware. But the style's core appeal is a minimalist, uncluttered functionality, and those values are reinforcing a new trend toward having no visible hardware. Touch-to-open and soft close technologies support this, and some designers are also looking backward toward hand-sized notches, finger holes and other solutions that predate modern decorative hardware.

Supply chain woes seem to have lessened significantly over the past year, but just-in-time inventory can still be a challenge when it comes to this highly personal and subjective aspect of design. Homeowners feel that they have more control over hardware than most aspects of a remodel or new construction. Catering to their desires can be daunting because they want to understand trends, and often include the latest technology.

WHAT'S NEW?

When it comes to hinges, the new Compact Clip from **Blum** (*blum.com*) was specifically designed for face frame cabinets, and it lets the installer remove and reinstall doors



TufBuilt Hardware's Inline hinge comes in full overlay, half overlay and inset versions.





Dynapro 2.0 undermount full extension soft-close slides from Grass can be easily adjusted without tools.

tool-free. It eases installation with both clip-on technology and three-dimensional adjustability. And it has integrated soft-close Blumotion that's available in a full range of overlays. A door can be easily removed by pressing down on the clip's lever and sliding forward to release it from the mounting plate. No matter how many times the hinge is removed from the mounting plate, the adjustments will remain at the factory setting.

Blum's new MerivoBox metal drawer system uses just a few components and two color palettes to offer a variety of looks. Woodworkers can switch between different heights and designs and the system's simple, clearly labeled and easily accessible three-dimensional adjustment options let installers achieve perfect alignment on-site. The designer can choose to build a deeper drawer with a closed metal side or design element, or an open space with a gallery rail. The drawer side is designed to reflect light, adding some overall visual interest. And in February, Blum introduced a new pocket door system called Revego with full overlay fronts that can be opened by pressing and gliding each door into a narrow pocket. Single and double door options are available.

Häfele (*hafele.com*) brought its new shelf lighting system to February's KBIS show in Las Vegas. Designed for frame-



The 3-dimensional adjustment on MerivoBox from Blum lets installers achieve perfect alignment on-site.





Salice's F70 is a heavy-duty undermount drawer slide that comes with a 154-lb. dynamic load rating,





With Häfele's new lighting system, shelves can be adjusted with the lights installed.

less cabinets, it uses LED strips underneath shelves that can be adjusted for height.

The new 4PIL Wood Pilaster System from **Rev-A-Shelf** (*rev-a-shelf.com*) uses steel pins between two wooden strips and clever hooks to allow homeowners to adjust the locations of drawer slides. Designed for base cabinets, it works with the company's 4WDB drawer boxes which have pegboard bottoms, maple pegs and metal dividers to organize items for storage. Blum soft-close slides add functionality, and the pilaster system is stackable for pantry applications. Installation is a breeze with the included template and requires only four screws per drawer box.



Blum's new Compact Clip lets an installer remove and replace doors tool-free.

MOVING EXPERIENCES

Dynapro from **Grass America** (*grassusa.com*) is an undermount, full-extension drawer slide that moves with a slight pull and gentle push. It uses an integrated rack and pinion system that lets the slides move in tandem, and that improves the glide, reduces noise, and prevents the drawer from binding. And Dynapro2.0 undermount slides offer a variety of front locking devices to provide two- and three-dimensional adjustments. The drawer can be adjusted side-to-side, or for height or depth.

When expanding the length of a countertop isn't an option, how about increasing its depth? A simple solution from **Richelieu Hardware** (*richelieu.com*) called the OPLA Folding is a sliding table extension mechanism that can increase the usable surface area in no time at all. Simply pull it forward and then up and an extension will automatically adjust to the height of the main work surface. It includes soft-close and can be installed in cabinets, pantry units or under counters that have a minimum interior depth of 21-1/4" and a width between 18"and 36". The system is hardware only: the panels are made in the woodshop.

The AvanTech You is a new drawer system from **Hettich** (*hettich.com*) that completely hides the slides inside the drawer sides in a well-conceived design that is sleek, slim and stylish. It's quite customizable too, even though it uses a simple drilling pattern and fine tuning for reveal adjustments.

Just over a year ago, **Salice** (*salice.com*) introduced the F70 heavy-duty, undermount drawer slide. It comes with a dampening device and an integrated handle-less opening mechanism in the Push version. It also works with Salice's optional synchronizer kit that lets wider drawers open with minimum effort. It's six-way adjustable, and there's an optional tool-free tilt adjustment in the back that does not require removal of the drawer to perform. The F70 is available in lengths from 15" to 30".

Kansas-based **TufBuilt Hardware** (*tufbuilthardware.com*) makes hinges, undermount soft close slides, and full ex-



The new 4PILsystem from Rev-a-Shelf lets homeowners adjust the heights of slides in a base cabinet.

tension side-mount ball bearing slides. Three versions of the company's Inline Soft Close Hinge with Invisible Plate — the 00, 08 and 15, respectively — are designed for full overlay, half overlay and inset applications. Each has a 105-degree opening angle for door thicknesses from 14 to 22 mm thicknesses (approximately 9/16" to just under 7/8"). Tufbuilt is in the process of opening a new manufacturing plant, and the production environment is highly automated.

Fulterer (*fulterer.com*) is an Austrian manufacturer with facilities in several countries, including the U.S. in North Carolina and California. Its catalog includes roller, ball and stainless-steel bearing drawer slides, concealed undermount slides, and vertical pantry pull-out hardware.

When clients choose decorative hardware such as pulls and knobs, their decisions usually don't impact the production process too much because they require little more than standard hole patterns and screws. But functional hardware (including slides and hinges) is more often chosen by the woodworker. Depending on the shop's volume, a trip to one of the major shows such as IWF, KBIS and the AWFS Fair can pay huge dividends. The best way to compare products is to physically handle them. Online catalogs are very useful, but meeting factory reps and woodshop owners in person can help a shop zone in on the best pulls, slides, hinges and more. **w**

Images: Courtesy of hardware manufacturers



An oculus by E.J. Callender and functional wooden clock by Michael Giltzow, both made with a CNC, from the Idaho show.

Courtesy of Idaho Artistry in Wood & Gourds Show

Students organize exhibit at Penn State

By Jennifer Hicks

The College of Arts and Architecture's Stuckeman School at Penn State University opened "Stuckeman Craft Biennale 001: Sitting Apparatus" in March, a student-led exhibition that will run through May 4. The exhibition features 17 pieces of furniture designed by students, faculty and alumni.

"Over the past several years, Stuckeman School students and faculty members have worked in the Stuckeman shop to design and build sitting apparatus as part of an elective course, independent study or even on their own accord," the organizers – which include architecture students Esmael Maalej, Andrew Ferreri and John Martin — said in a statement.

"The work has inadvertently gone unnoticed within the school due to Stuckeman shop's location in the basement of the building. However, having built the collection to more than a dozen contributors in both the Departments of Architecture and Landscape Architecture, the exhibition organizers agreed it was time to shine a light on the hard work and innovation being done within the school."

Pieces on display involve a wide range of materials, techniques, sensibilities and skill, illustrating the exhibit team's passion for design, making and craft," the organizers said.

"We hope that by witnessing the work of current and past students, the entirety of the Stuckeman School community will be inspired to craft a sitting apparatus of their own as they see the fabrication capabilities that we have within our wood and metal shop. Ultimately, the hope is that this will be one of many exhibitions displaying craft in the Stuckeman Family Building."

Learn more at *psu.edu*.

ARTISTRY WITH A CNC

The 2024 Idaho Artistry in Wood and Gourds Show was held April 6-7 at Jack's Urban Meeting Place (JUMP) in Boise, Idaho. The annual show brings together hundreds of artists and features a competition, demonstrations, vendors, sale opportunities, and more.

This year's show was hosted by the Ada County Woodworkers Association, with assistance from the Idaho Gourd Society, Idaho Woodcarvers Guild, Treasure Valley Scrollers, and Southwest Idaho Woodturners Association.

It had a special focus on CNC artistry and featured work by E.J. Callender, Michael Giltzow and Ben Tyson.

Learn more at *idahoartistryinwood.org*. **W**



MILWAUKEE TOOL presents the new Roll-On 7200W/3600W 2.5kWh Power Supply featuring a non-removable Red-Lithium Integrated 2.5kWh battery, which provides enough power and run-time to sustain high-demanding, intermittent applications throughout the day, according to the company. Learn more at *milwaukeetool.com*.





SOUTHWORTH presents the new ZLS-T combination lifter and tilter for accessing items stored in containers, totes or gaylords. It features a pan-style platform that sits flush with the floor, allowing it to be loaded and unloaded by a hand pallet truck. Lift and tilt are controlled independently so operators. Learn more at *southworthproducts.com*.



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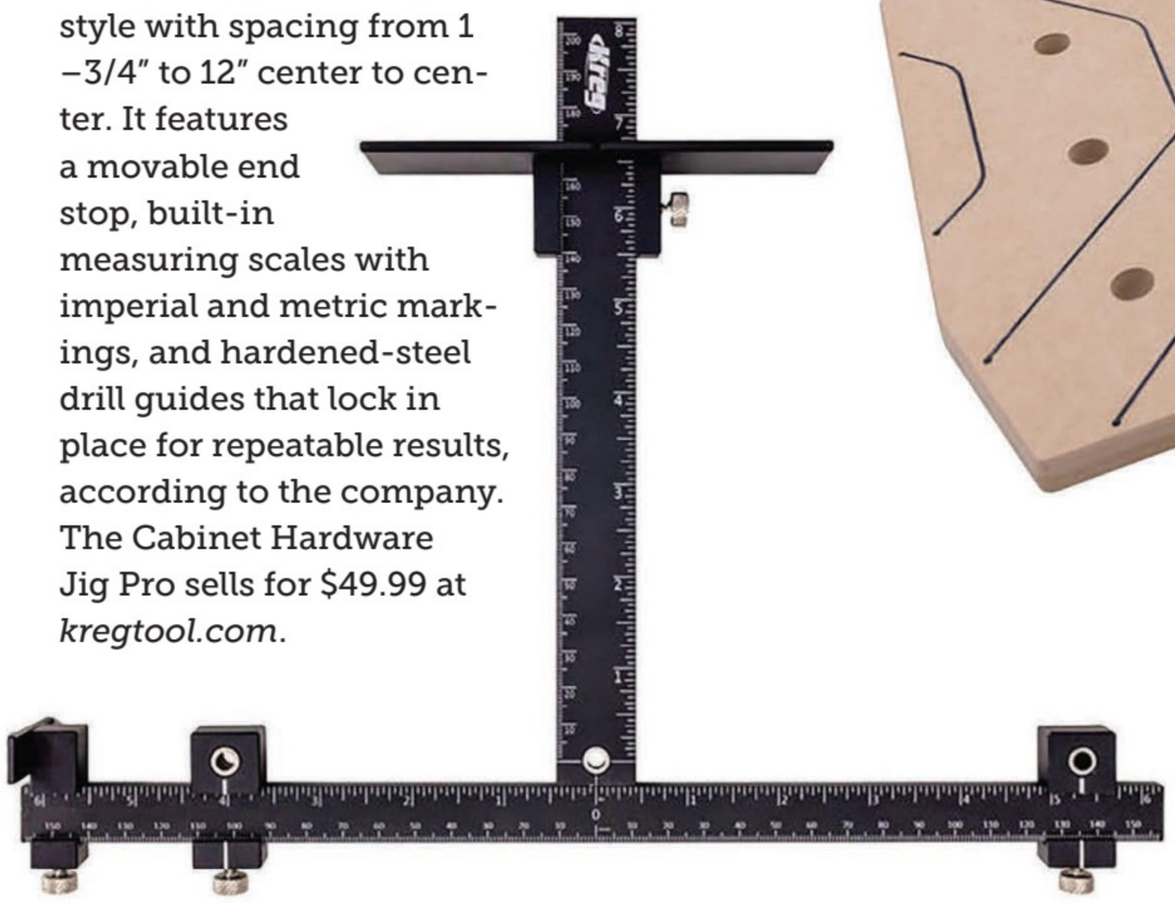
KNAACK introduces the Armoured Transport, a tool storage cart built for maximum mobility, security and durability, according to the company. Features include 8" swivel wheels, a payload rating of 750 lbs., 16-gauge steel panels with full-frame lockable steel doors, and an elevated work platform. Learn more at *knaack.com*.





KREG
introduces the Cabinet Hardware Jig Pro as a fast, repeatable way to install knobs and pulls of any style with spacing from 1–3/4" to 12" center to center. It features a movable end stop, built-in measuring scales with imperial and metric markings, and hardened-steel drill guides that lock in place for repeatable results, according to the company. The Cabinet Hardware Jig Pro sells for $49.99 at *kregtool.com*.





KREG
also introduces the Portable Work Surface featuring an MDF top with pre-drilled 3/4" dog holes and GripMaxx strips to hold workpieces. Four-inch legs elevate the surface for clamping and cutting clearance. An integrated carrying handle doubles as a screw container holder. Learn more at *kregtool.com*.







DURA SUPREME CABINETRY presents new reeded panels and cabinet door inserts that offer a simple lined pattern and classic texture. Learn more at *durasupreme.com*.

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Courtesy of manufacturers

OSBORNE WOOD PRODUCTS introduces the Weyburn Empire Kitchen Island Leg collection that features three different sizes, all at a 34-1/2" height. The combination of intricate grooves and curved edges makes this square leg a fit for any contemporary space, the company said. Learn more at *osbornewood.com*.

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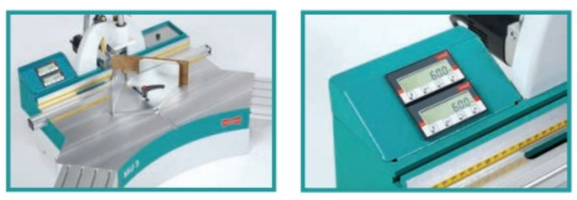

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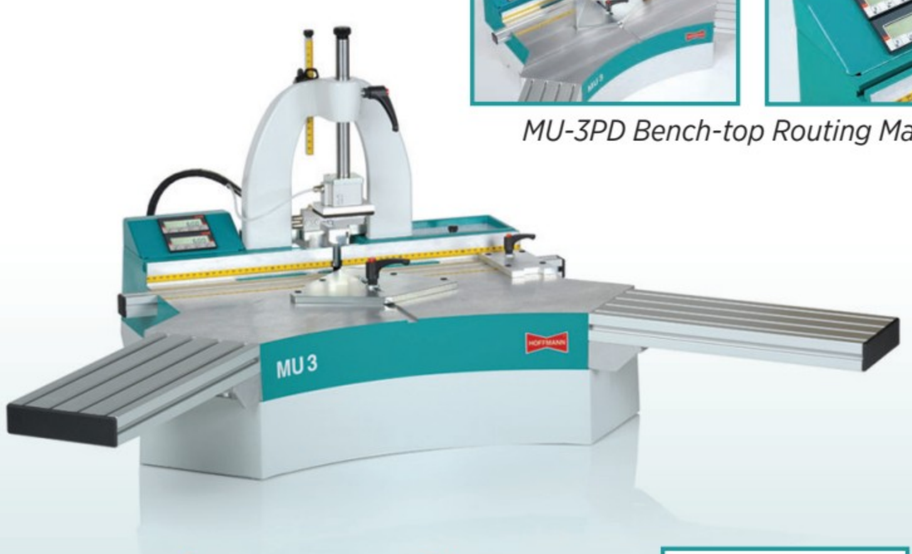

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CALENDAR

Organizations sponsoring meetings, classes or shows of interest to professional or hobbyist woodworkers are invited to submit items to *editorial@woodshopnews.com*. Include name, dates, location, description of event and a contact address or telephone number. Calendar items must be received a minimum of 60 days before the event. Please note that fees, as listed, might not include materials or shop fees. Check with a specific class for further details.

— Compiled by Jennifer Hicks

ARIZONA

June 22-23 — Introduction to Woodworking. Welcoming class for beginners teaches hand and power tools, techniques and more in building a wall shelf. Fee: $399. Location: Southwest School of Woodworking in Phoenix. Learn more at *sw-sw.org*.

CALIFORNIA

Monthly — San Fernando Valley Woodworkers meets on the third Thursday of each month at 7 p.m. at the Highland Hall Waldorf School woodshop in Northridge. Learn more at *sfvw.org*.

FLORIDA

Ongoing — The Dunedin Fine Art Center is offering six-week woodturning classes at its Cottage Campus taught by AAW professional member Tony Marsh for beginners and intermediate-level participants. Full-day classes are held on Thursdays. Call 727-298-3322 or e-mail *education@dfac.org*.

Sept 22-24 — Architectural Woodwork Institute's annual convention, featuring networking opportunities, guest speakers, and more. Location: Amelia Island. *awinet.org*

GEORGIA

Aug. 6-9 — International Woodworking Fair, North America's largest woodworking technology and design trade show. Location: Georgia World Congress Center in Atlanta. Register at *iwfatlanta.com*.

MARYLAND

Monthly — The Howard County Woodworkers Guild meets the first Saturdays of the month at the Bain Senior Center in Columbia from 9 a.m. to 12 p.m. Contact: Manny Flecker at *aaron0641@hotmail.com*.

MINNESOTA

Monthly — The Minnesota Woodworkers Guild meets on the second Tuesday of each month at various locations. *mnwwg.org*

MISSOURI

Oct. 2-4 — National Hardwood Lumber Association's Annual Convention & Exhibit Showcase at America's Center in St. Louis. *nhla.org*

NEW JERSEY

Monthly — The North Jersey Woodworkers Association meets the third Monday of every month. For locations, visit *njwawoodworkers.org*.

Monthly — The Professional Woodworkers Guild of Upper New Jersey meets on the third Wednesday of every month. For locations and more, visit *njwoodguild.com*.

NEW YORK

Monthly — The Woodworkers of Central New York meets on the first Thursday of the month at 6:30 p.m. at the Belgium Cold Springs Fire Department in Baldwinsville. Learn more at *woodcny.org*.

Monthly — Northeast Woodworkers Association meets on the second Thursday of the month in the Albany area. Learn more at *woodworker.org*.

Monthly — The Long Island Woodworkers meet on the first Wednesday of each month at 7 p.m. at the Frank Brush Barn of the Smithtown Historical Society in Smithtown. Learn more at *liwoodworkers.org*.

NORTH CAROLINA

Monthly — Triangle Woodworkers Association meets on the third Tuesday of each month at 7 p.m. at Klingspor's Woodworking Shop in MacGregor Village in Cary. Learn more at *trianglewoodworkers.com*.

Monthly — Charlotte Woodworkers Association meets the third Tuesday of each month at 6 p.m. at the MakerSpace in Charlotte. Learn more at *charlottewoodworkers.org*.

PENNSYLVANIA

Monthly — Lehigh Valley Woodworkers Guild meets at 6:30 p.m. every third Wednesday of the month at the Woodcraft in Allentown. *lvwwg.com*

June 28-July 1 — SAPFM's Mid-Year Conference, featuring educational presentations, guest speakers, tours of private collections and more. Location: Ursinis College in Collegeville. Register at *sapfm.org*.

SOUTH DAKOTA

Monthly — The South Dakota Woodworkers Guild meets the last Thursday of every month (except August) at various members' shops. The club has hand tool and woodturning groups. Learn more at *sdwoodworker.org*.

WYOMING

Sept. 5-8 — Western Design Conference, featuring Western-inspired handcrafted furniture, decorative items, fashion, and more. Location: Snow King Center in Jackson Hole. Learn more at *westerndesignconference.com*. W



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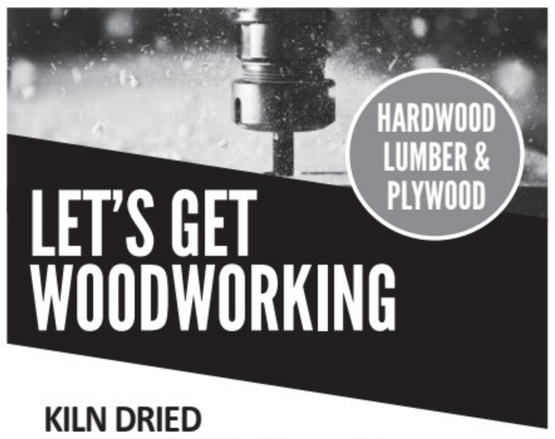

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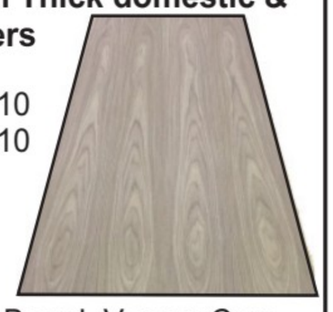

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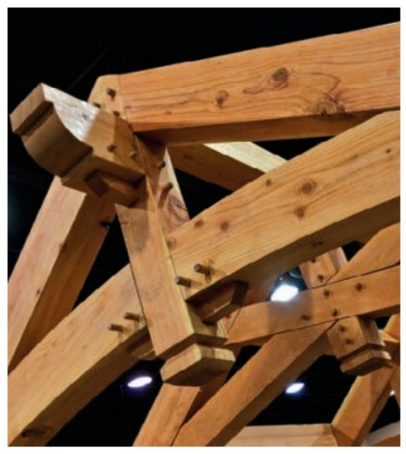


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(Clockwise, from left) Winning pieces from the 2023 SAPFM Makers Challenge include this secretary by Thomas Smoller; Queen Anne desk by Frank Hucek, and Federal sideboard by John Lawrence.

Up to the challenge

The Society of American Period Furniture Makers announced the winners of its 2023 Makers Challenge in February. Now in its third year, the challenge was created as a tribute to late furniture maker and educator Phillip C. Lowe, who passed away in January 2021, and to give SAPFM members a unique avenue to compete with one another.

"The Phil Lowe Makers Challenge was started during the Covid era, with the first award given in 2021. With people in their shops, it gave members something to work towards. We wanted to create a juried environment for members only and create a platform that would be appealing to all skill levels," says SAPFM president David Redlin.

For the 2023 challenge, 29 members submitted 32 entries in three categories: Novice, Intermediate and Expert. The winners are:

Novice: Frank Hucek for a cherry Queen Anne desk replicated from a generic Queen Anne lowboy design.

Intermediate: Thomas Smoller for a Newport six-shell secretary, a reproduction of one of the secretaries owned by the Museum of Art at the Rhode Island School of Design.

Expert: John Lawrence for a Federal sideboard, a circa 1800 design taken from a small six-legged table at the Winterthur Museum.

View other entries at *sapfm.org*.

—Jennifer Hicks

60 Grit

Rough humor by Steve Spiro



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